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THOMAS P. GRASTY, Vice-President.
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COPY FOR ADVERTISEMENTS.

Advertising copy (changes or new advertisements) should reach us Saturday Morning to insure insertion in the issue of the following week.

For the first issue in the month we should receive copy by Friday Morning of the week preceding.

ABRAM S. HEWITT.

The death of Abram S. Hewitt of New York ends the career of one of the greatest Americans of the last century. He was pre-eminently an embodiment of public spirit. Trained to business and manufacturing, he applied the experience gained thereby to the furtherance of far-reaching movements for the advantage of his city, his State and his country. Becoming interested, for instance, in the iron resources of the South more than fifty years ago, he was linked for the rest of his days to that portion of the country not merely in a material way, but under the deep conviction that with the development of its natural resources would come advance upon many lines and a marked contribution to the growth of the whole country. So, too, he regarded politics, not as the means of promoting personal ambitions or party success, but as the agency for cultivating adherence to high principles and to the expression of patriotism. At times of depression or when there was a tendency to despair about the future, he could always be depended upon to sound a strong note of hopefulness, the stronger because it was backed by reason and action. Mr. Hewitt was one of the country's great optimists. His services as such were inestimable, and his example in that respect will not be lost.

Memphis welcomed last week the convention of the Bricklayers and Masons' International Union. It is stated that the committee appointed to give out matter for publication was careful "to let nothing get out which will in any way embarrass the work of the organization." The committee, however, did let out that the union will insist upon the selection of members of the union for the position of building inspectors in different cities of the country. Of course, that will not make a bit of trouble with other unions who

might like to insist upon their membership being considered exclusively in such selection, or with the general public which pays the salaries of building inspectors and which might like to do a little insisting on its own account.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 56 and 57.

WHAT OF THE FUTURE?

In industry, in finance, in railroad operation, in agricultural advancement our country is moving with such "seven-leagued boots" that we can scarcely follow its steps. In 1880 the total capital invested in manufactures was 2,790,000,000, and the value of the output of our factories was \$5,369,000,000; now the capital invested in manufacturing is over \$10,000,000,000, and the value of the product about \$15,000,000,000. Then we made 3,000,000 tons of pig-iron and mined 42,000,000 tons of bituminous coal; now we are making 17,500,000 tons of pig-iron, and still have lately had to import iron at the rate of 1,000,000 tons a year to meet our consumptive demands. We are mining 250,000,000 tons of bituminous coal, and yet great iron and steel plants are idle because they cannot get coal and coke for their daily needs. Then we had 87,800 miles of railroad, mostly laid with light rails and operated by light rolling stock; now we have 200,000 miles, or nearly one-half of the world's mileage, mostly laid with much heavier rails and operated with much heavier locomotives and cars that carry from 60,000 to 100,000 pounds each, and yet it is evident that within ten years our railroad facilities must be more than doubled in efficiency to meet the demands of the trade, which have far outstripped the means for handling traffic. Then we had 50,000,000 inhabitants; now we have nearly 80,000,000, and increasing at the rate of about 18,000,000 to 20,000,000 in the next ten years.

The momentum of development is such as the world never saw. The next ten years must easily show a greater growth than the last twenty, for we now have at home 30,000,000 more people to work and to consume than we had in 1880, and by 1912 we will have nearly 50,000,000 more—almost the same as our total population in 1880, and then our manufacturers had but a limited foreign market; now we are pushing out for the world's trade, and shall capture it just as rapidly as we can push our production beyond our own consumptive requirements. We have many times as much labor-saving machinery as we had then; we have accumulated experience and capital far greater than the enthusiast of that day could have seen in his most visionary forecast. Then the wealth of the country was given by the census as \$43,640,000,000; now it is \$100,000,000,000. Starting in 1880, when we had 50,000,000 population, with 42,000,000 tons of bituminous coal output and 3,000,000

tons of pig-iron, we now have 250,000,000 tons of bituminous coal and 17,500,000 tons of pig-iron. Now we have nearly 80,000,000 people, and the industrial expansion of the world is so great that by 1912, when we will have between 95,000,000 and 100,000,000, or, approximately, double the population of 1880, we must make at least as much actual increase in coal as we have done since 1880. Disregard all percentages, for in figures of such magnitude percentages of increase may not be attained, and simply take the actual gain in tons between 1880 and 1902. That was largely over 200,000,000 tons. Thus, instead of the 250,000,000 tons of bituminous coal we are now mining, we must in 1912 have an output of 450,000,000 to 500,000,000 tons. These figures are too stupendous to be grasped, but they do not seem as stupendous as a prediction for 1902 of 250,000,000 tons would have looked to us in 1880. The production of pig-iron has doubled about every ten years ever since 1850. In 1890 it would have seemed almost impossible to believe that we would make 17,500,000 tons in 1902, and yet we did, and still had to import heavily. It is hardly conceivable that we will make 35,000,000 tons in 1912, but to do so would only be to follow the history of the iron production for half a century. To do it would require such an era of furnace building as we have never seen, but still it might be done. Even if we add only as much as the actual gain between 1892 and 1902, or 8,500,000 tons, the total for 1912 would have to be about 26,000,000 tons.

Railroad reports show that for the whole country the total freight tons carried one mile was 85,000,000,000 tons in 1895 and 147,000,000,000 tons in 1901; in 1902, the figures for which are not yet available, the total must have been very much larger, probably at least 160,000,000,000 tons, or practically double the traffic of only seven years before. In other words, the gain in seven years is nearly equal to the total tonnage at that time. With increase of population, of coal and iron output and of general advancement, the gain must go on almost as rapidly, unless it be halted, as it may be temporarily, from the physical inability to provide transportation facilities fast enough to keep up with the demand. There may come a full simply as a breathing spell, but if so the next great burst of activity will be on such a scale as to more than make up for the resting spell.

Heretofore, by reason of conditions now largely changed, such as the paralyzing effect of the war upon the South and the great activity in opening up the West, the development was mainly in the North and West. In Pennsylvania, Ohio and Illinois centered the iron and steel and coal expansion; in New England the textile interests and kindred manufactures, and in New York financial operations of the whole country. Now the scene of activity has shifted; southward the star of industrial empire takes its way. West Vir-

ginia and Southwest Virginia are the centers of the greatest coal activity in America. Coal-mining is being pushed with almost feverish activity; railroad operators are in despair because they cannot handle the traffic. But West Virginia has only scratched a few hillsides in its coal territory. Great Britain has only 8000 square miles of coal area, but mines nearly 300,000,000 tons a year; West Virginia has 16,000 square miles, twice as much, and mines 25,000,000 tons, or one-twelfth as much. The time will come when West Virginia will mine as much as Great Britain. Southwest Virginia adds to this an immense contiguous coal field of great richness. These States are bursting with coal, and railroad facilities cannot be increased rapidly enough to meet the demand. More business awaits them than they can all, new and old, handle. Then comes North Carolina, a State larger than Pennsylvania, probably all around the most wonderfully endowed State in the Union—a State whose mineral and industrial potentialities are simply without limit. And then South Carolina, next to Massachusetts the leading cotton-manufacturing State of the Union, and Georgia, the Empire State, and Alabama, prophesied of by Mr. Abram S. Hewitt, possibly the world's highest authority, as to be the basic steel center of the world. Like West Virginia, it has scarcely scratched the ground; it is just starting its real business career. And then Tennessee and Mississippi. But why enumerate? Here is the world's richest territory just at the threshold of its development—building a cotton mill here and there, to be trebled and quadrupled before many years; making a few million tons of iron and mining 60,000,000 tons of coal, both soon to be doubled; finding every day new sources for increasing its oil supply and building new enterprises of all kinds, from furniture factories to steel mills. This section is now going to keep full step with the giant strides of America's industrial activity.

EDUCATED ABOUT THE SOUTH.

As an indirect result of the Southern Education Scheme, education about the South is being rapidly promoted. A leading member of the Southern Education Board wrote not longer ago than May 15, 1902, that the Athens conference, under the auspices of the Board, developed "two or three facts that are of revolutionary importance." These developments, according to this authority, Dr. Walter H. Page, included the following:

Northern men who are earnestly engaged in furthering popular education, and Southern men who are also actively engaged, as soon as they meet in a friendly earnestness of purpose, discover that they agree absolutely, both with regard to aim and with regard to method. They stand on identically the same platform as to the education of the races, and the platform is this—that both races should be treated alike. * * * The Southern men who are engaged in educational work stand squarely for the same training for the blacks as for the whites. * * * The General Education Board has a fund of somewhat more than a million dol-

lars, * * * and it is given for the furthering of education without regard to sex or color.

Just a year before Dr. Charles W. Dabney, also a member of the Southern Education Board, in a somewhat self-contradicting address, said:

The only solution of the Southern problem is free public schools for all the people, blacks and whites alike, and compulsory attendance laws.

So, too, Mr. Clark Howell of Atlanta was enthusiastic at Athens over the promise of the obliteration of "the color-line in education," while Washington Gladden of Ohio noted a few months later that education prosecuted along the lines of the Scheme, "must result in a more intelligent and kindlier public sentiment toward the negro and in a better estimate of his rights and capabilities."

In less than eight months a great light has dawned, and Dr. Walter H. Page and his associate educators have discovered that perhaps, after all, the revolution revealed at Athens had not happened, for at the annual meeting of the Southern Education Board in New York Dr. Charles W. Dabney said:

The two races in the South must forever be educated apart. That means that the South must always run two sets of schools. But in order to do this successfully, the white man must first be educated. The undeveloped white man must be discovered. The great problem of the South is not primarily the education of the negro, but the discovery of the unprivileged white man. The white man is the natural leader, and he must be educated in order that the negro may be led in the proper way. What about this question of race prejudice? It is not peculiar to the white people of the South. I believe this prejudice has been placed [by the Creator, as another report of the speech has it] in the hearts of the plain, simple people of the South to keep their blood pure, and it is going to persist until reason and culture take its place as the guardian of race integrity. The only way, therefore, to remove all unreasonable race feeling is to educate the white man.

Though we doubt the wisdom of suggesting that "reason and culture" can overcome the works of the Creator, Dr. Dabney has come back in these sentences to the position which the intelligent South—"the plain, simple people of the South"—is hardly an intelligible phrase—was endeavoring to strengthen when this Southern Education Scheme, backed by men who had been occupied for years in philanthropy for the negro, was injected as a disturbing and retarding factor. His words will not encourage Mr. Edward Atkinson in his expectations that two or three generations will suffice to mix the races in the Southern schools, as is customary in portions of the country where the bulk of the funds for the Southern Education Scheme are to be raised, nor are they calculated to strengthen the begging for more funds, unless the policy to be continued in the Scheme should turn Dr. Dabney's words into mere rhetoric. But the interesting and significant fact remains that it has been found necessary for such a statement to be made from the New York rostrum.

Another propagandist, the Rev. Edgar Gardner Murphy, Executive Secretary of the Southern Education Board and Chairman of the Child Labor Committee of Alabama, is also explaining, though he seems to be still somewhat in the dark. He has returned again to Montgomery, Ala., and has had an interview published in the Montgomery Advertiser. Two or three statements in that interview may be quoted as a basis for revision. The Rev. Mr. Murphy says:

The educational work and the work for

child-labor legislation are not in any way connected, directly or indirectly.

Has he been away so long that he is unaware of the fact that in its official publication the Southern Education Board has come out flatfooted in promotion of the child-labor agitation, even quoting the Rev. Mr. Murphy in that connection, and has also approached the same agitation indirectly in a strenuous advocacy of compulsory attendance upon schools?

It required boldness to quote the Rev. Mr. Murphy as an authority, for he, in his honest enthusiasm in a poor cause, has made rapid changes in his position. Last August in his "Case Against Child Labor" he alluded to "an industrial system which the whole world has cast off," and said:

We cannot war against the practice of the whole world. The world, upon both economic and humanitarian grounds, is resolutely abandoning both the slave and the child as factors in industrial production.

The whole world has passed upon this thing; has passed upon it after generations of debate. No great industry can well make war upon the whole of life.

Is it a wise policy for "capital," at the very beginning of its development in Alabama, to choose an issue upon which it has already been whipped in four States of the South, in which it has already been whipped in every quarter of the world, and upon which it will certainly be whipped again?

For those who recall the Rev. Mr. Murphy's "statistics" and statements of last midsummer the only comment upon his position at that time and his strength as a counsellor may, perhaps, be his statement last week at Montgomery:

The question is not sectional, but general. The North has more than enough sins of her own.

To enable the Rev. Mr. Murphy to reach that conclusion it has been necessary to spend considerable time reproducing easily-available facts about labor conditions in different parts of the country and in the rest of the world, not in any tu quoque argument, as has been childishly asserted, but to demonstrate that the methods for solving industrial problems advocated by the Rev. Mr. Murphy and other propagandists have practically failed elsewhere, and because of their inherent weakness and danger should be avoided by the South. The close connection has also been shown between this child-labor agitation and the plans of Samuel Gompers and his American Federation of Labor, which would regulate the hours of farm labor as part of the scheme committing the South to the paralysis of socialism. But the advance made by the Rev. Mr. Murphy and others of his kind has justified the loss of valuable time which might otherwise have been employed in constructive efforts for the South.

HINT FOR MANUFACTURERS.

The necessity for prompt action on the part of American manufacturers proposing to enjoy the unexcelled opportunities of the St. Louis World's Fair of 1904 for advancing their interests is emphasized in special correspondence from St. Louis in this issue of the Manufacturers' Record. The plans of the exposition management are broadly sketched to indicate the originality desired in machinery exhibits, but the important fact is that applications for space have already been received almost sufficient to fill the buildings, and that therefore from now on the task will be mainly one of elimination and selection, combined with the stimulation of intending exhibitors to install not only the newest and best products in their line, but also to use

the greatest ingenuity and skill in making the exhibits most effective. The main point for manufacturers to keep before them is to plan striking exhibits, and to plan them at once. Within a year the exposition will be under way.

THE IMPORTANCE OF FORESTRY.

No more timely volume in many respects than Dr. B. E. Fernow's "Economics of Forestry" has appeared of late. Pressing in upon the public mind is the strengthening conviction that American exuberance and optimism has led to irredeemable wastes in the handling of our forests, and that prompt action should be had to prevent a duplication of recklessness in the treatment by lumbermen of timber still standing. And the South, about the last resort of the all-around woodman's axe, is especially interested in everything bearing upon forest preservation and forest restoration. This country is far behind the older nations of Europe in the attention given to this important subject, because the necessity for economy in lumber operations has only begun to be keenly felt with the passing of the sway of white pine to yellow pine and the depletion of the hardwoods in the North and West. But in spite of the enormous expansion of the use of iron and steel and other material in structural operations, the demand for lumber has not diminished. In the face of decreasing supplies something must be done, and everything pointing to the proper policy to be pursued is a valuable acquisition.

Such is a work of Dr. B. E. Fernow just published.* The author was for eight years a member of the Prussian forest department, where he availed himself of abundant means for acquiring knowledge of the technical side of the subject and experience with conditions of European forestry. For twelve years he was in charge of the forestry division of the National Agricultural Department, and his labors largely contributed toward the possibility of its expansion into a bureau; and as an active officer of the American Forestry Association he has been in close touch with the movements of the past decade looking to an intelligent realization of our timber resources, to the end that owners of trees are beginning to act upon the knowledge that a forest is not a mine to be exhausted, but in a certain sense a farm to be cultivated as well as harvested.

In keen appreciation of the vital importance of our forests, Dr. Fernow discusses forestry from the standpoint and for the especial use of the student of political economy, in recognition of the fact that much educational work is yet to be done in that field. It is only necessary to consider for a moment the far-reaching influence upon a vast range of human undertaking of the establishment of such a forest reserve as that which it is proposed to make in the Southern Appalachians to comprehend how the prosperity and the vigor of the country is dependent upon the preservation, where possible, of natural resources. But while such a fact is likely to appeal immediately and most strongly to the student of economics, it also has weight with every thoughtful citizen, and, therefore, Dr. Fernow's work, while bringing together with professional com-

*Economics of Forestry. By Bernard E. Fernow, LL.D., director of the New York State College of Forestry in Cornell University, and late chief of the division of forestry of the United States Department of Agriculture. New York: Thomas Y. Crowell & Co. Price \$1.50.

pleteness and accuracy all that the special student should know of this branch of science, its interest is by no means confined to the student. Intelligent citizens in divers walks of life will find it entertaining and profitable. This is indicated by the titles of some of its twelve chapters—"The Relations of the State to Natural Resources," "The Forest as a Resource," "Methods of Forest Crop Production," "Forest Economy," "Forest Policies of Foreign Nations," and "The Forest Movement in the United States."

DEMOCRACY?

One of the most stirring sentences uttered by the Rev. Dr. Wallace Buttrick of New York, one of the almoners of the Southern Education Scheme, in his conference with the Virginia school superintendents, was:

I am a Democrat.

Of course, that provoked applause. But beyond the intent of provoking applause it is difficult to conceive what bearing it had upon the furtherance of the Southern Education Scheme, if that Scheme is to redound to the real advantage of the South. On the contrary, the use of that sentence rather confirms one in opposition to the Scheme, for it will be remembered that the original father of the assertion, a fellow-townsmen at intervals of the Rev. Dr. Wallace Buttrick, recently gave a clear definition of his idea of democracy in demanding national ownership of the coal mines of the country, which isn't democracy at all, but the rankest sort of socialism. Pure democracy is all right, but the genuine article is what is required, and, as a matter of fact, this Southern Education Scheme in its alliance with the "child-labor" agitation is calculated in more ways than one to educate the South into a socialistic frame of mind.

DRAINAGE.

In asking the South Carolina legislature for an appropriation to continue its work, the sanitary and drainage commission of Charleston county has made an interesting report of its progress in reclaiming 15,000 acres of lowlands near Charleston. At a cost of a little more than \$5141 about 3036 acres have been drained, and the commission reports that that territory is now perfectly healthy, and it asserts that the mere reduction of the number of mosquitoes which had been bred in the ponds and morasses has been of incalculable benefit to the health of that section. The commission states that the work is now approaching a section of the county which has been for years considered the most lawless. Drainage will make the territory healthy and permit its occupation by law-abiding whites, so that it will be sanitary both from the physical and moral standpoint. The undoubted good results already obtained through this drainage work ought to encourage its prosecution of completion and lead to a more general movement for the reclamation of other such waste lands in the South.

ANTI-TRUST.

Anti-trust bills thus far introduced in Congress are either so strenuous that they never can become laws, or are so unconstitutional that they could never become effective. Moreover, the short session of Congress will hardly permit any of them to reach passage by both Houses. Yet there are persons enthusiastic enough to believe that politicians are in earnest in their anti-trust agitations.

THE HEIGHT OF PATERNALISTIC ABSURDITY.

The extent to which interference by government with business undertakings might go unless the present revolutionary tendencies in that direction are promptly suppressed is indicated by a letter to the railroad commission of Texas from an employee of a railway company in the State. The employee describes with some detail the condition of railway employees, and makes the following suggestion of a remedy:

Let the legislature give the railroad commission power to name the salaries of all clerks up to and including chief clerks employed by the Texas railroads, and let the legislature itself make eight hours a day's work.

That is doing well, but it does not go far enough. The legislature ought to compel the railroads to provide food and clothing for the clerks, and, in case of bad weather, cabs to haul them to and from their offices; it should also compel the railroads to provide comfortable couches for the repose of the clerks if they happen to get tired during their eight hours' work. But why should the clerks be compelled to work as long as eight hours a day? Why not make their time two hours? In fact, why should not the legislature take entire charge of the operations of the railroads, fixing freight and passenger rates to suit the wishes of influential voters, running the trains to accommodate every would-be traveler, perhaps granting free passes to everybody and changing hours and wages whenever a dyspeptic clerk may complain. Of course, such a plan would throw the railroads of the State into bankruptcy in about three weeks. But what difference would that make to demagogues, agitators and the generally disgruntled?

ALABAMA COAL FOR BOSTON.

The scarcity of coal and the inability of railroads to handle it is illustrated by the announcement in our Birmingham letter of the beginning of shipments from Birmingham via Pensacola to Boston, the first ship now loading with 2000 tons.

Charles St. John of Piney Woods Inn, Southern Pines, N. C., writes to the Manufacturers' Record as follows:

The Manufacturers' Record comes to our desk, and I read it every week with much pleasure. It is a great factor in the development of Southern industries, and the people of the South owe much to it. Editorially it is progressive; its news columns teem with items of interest, and altogether it is a journal of great usefulness.

INCREASING VALUES OF RAW MATERIALS.

And the Consequent Outlook in Iron and Steel.

[London Iron and Coal Trades Review.]

Two controlling facts, however, seem to stand out head and shoulders above all others as an index to the probable course of events in the coming year. The first of these is that raw materials are likely to continue comparatively scarce and dear. Coal certainly promises to maintain its present value. The second is that we are hardly likely to be much troubled with American exports to Europe—first, because the boom in that country now seems to have settled down into a more or less normal condition of business, and the second, because there is no very strong probability of prices falling to such an extent as to enable American producers to invade European markets. In all countries alike there is an increasing appreciation of the value of raw materials, stimulated by the threats of scarcity in many, and by the ex-

traordinary high prices charged in others. In no country has this recognition been more apparent or more controlling in its influence than in the United States. While it would be rash to assume that we shall never again see pig-iron in that country so cheap as it has been, it must be quite transparent, even to the man in the street, that if coking-coal and iron-ore properties have been bought at six or eight times, and in some cases at twenty times the value previously put upon them, the capital so invested can only see a proper return by a corresponding enhancement of prices. This, in our opinion, will be the shield of the British iron industry against a repetition of the abnormally low values of American iron and steel five or six years ago.

As with the United States, so also with other countries. Canada, which has sent us considerable cargoes of pig-iron during the last two years, and which professes to be able to make the cheapest pig-iron in the world, is likely to be profoundly influenced by American example, so much so that it would probably better pay Canadian producers to sell their raw materials to the United States at the new range of values established in that country than to use them in producing pig-iron or steel to ship to Europe at a very inadequate profit, or perhaps without any profit at all. So also again with Germany, which never did, and probably never can, produce pig-iron all round as cheaply as we produce it in this country, and which has given us large supplies of steel during the last three years at less than the cost of manufacture—a condition which probably, on the whole, has been a greater boon to us than to them.

In view of the facts just set out, we cannot but think that the future is less unfavorable than many would have us believe. We may not, indeed, do a great foreign trade in 1903, but that foreign trade is bound to come, and if prices in other countries are to be permanently higher, there must be the better chances for England, both at home and abroad. It will be much to the good if the new American regime should give us such a control of our home market that we can exercise more control than we have lately been able to do over home prices. This is a result that may fairly be justified by the facts. In the race for supremacy the ultimate victory is likely to lie with the country that has the largest and the cheapest supply of raw materials. The United States had both until lately, but that condition cannot be said to prevail any longer, considering the recent inflation of values. British ironmasters will do well to keep their eyes on any new and unappropriated supplies left for disposal. In the long run this will be the key of the whole position.

For Typewriter Ribbons.

Mr. L. G. Hammille, president of the F. Hammille Company, 114½ 21st street, Birmingham, Ala., writes to the Manufacturers' Record that he would like to know the kinds of fiber or cloth used in manufacturing typewriter ribbons, the name of an expert in matching cloth of a certain fiber, and something about machinery suitable for inking ribbon.

Looking for Mining Property.

Mr. John R. Waterman of Woonsocket, R. I., desires information about any mining property in the South that would be a safe and remunerative investment.

Would Make Absorbent Cotton.

The superintendent of a Southern cotton mill writes to the Manufacturers' Record for information about machinery for making absorbent cotton.

PRACTICAL INTENT OF THE ST. LOUIS EXPOSITION.

[Special Correspondence Manufacturers' Record.]

St. Louis, Mo., January 19.

Probably the best summary of the situation as to the World's Fair, to be held here in 1904, is contained in the recent statement of a Chicago newspaper to the effect that St. Louis is preparing a national surprise. If any change needs to be made in this statement it might be to enlarge its scope and say that the St. Louis Exposition will be an international surprise, for the plans of the management have already developed enough to warrant the declaration that this exposition will be by far the most interesting world's fair that has ever been held. I mentioned in this correspondence last summer some of the points on which the management of the fair rely to make of this an event of rare interest, and pointed out that the central idea of this exposition would be educational. In the development of the plan to have as many "live" or operative exhibits as possible it will be seen at once how important a place the industries will occupy. Indeed, it is not too much to say that manufacturing will be the dominant tone in the scheme, and with the plans, already assured, for the presentation of processes the manufacturers are going to hold the center of the stage. Enormous as is the space at the disposal of exhibitors—some 200 acres more than any other exposition ever had—the management informs me that applications have already been received well-nigh sufficient to fill up the buildings, and therefore from now on there will be mainly a process of selection and elimination, until from all corners of the globe the most interesting exhibits possible to be obtained will be secured. The work of the heads of the departments is now and has been from the first to stimulate exhibitors to put forth their utmost endeavors to prepare for installation not only the newest and best in their lines, but to combine the greatest ingenuity and skill in devising a group which will be striking and effective. Wherever possible "dead" exhibits are to be eliminated. The man with a process and an idea in effectively presenting it will be given the preference. There is no charge for space or power or light, the idea being to give extraordinary inducements to exhibitors to put their money into their displays, and those who fail to bring forward something of interest will not be allotted space.

A very good illustration of the standard set by the management is furnished by a proposed exhibit of a shoe manufacturer. On a small scale, but still complete in every detail, there is to be a modern American shoe factory in operation. The hide will be taken at one end of the exhibit, carried through the various processes of shoe manufacturing until it comes out at the other end a completed shoe and exhibited in an up-to-date retail shoe store. This exhibit will give a practical demonstration of the reason why American shoe manufacturers have been enabled to invade the markets of the Old World. And this is merely an illustration. Except in cases where processes are too costly and cumbersome, like the tanning of leather, it will be the purpose of the management to provide an exhibit of the manner in which goods and wares of all kinds are prepared from the raw materials for the market, until the visitor to the exposition shall have obtained a very comprehensive idea of almost everything that is being done in the industrial world today.

As stated before, the chief concern of

the management now is to induce intending exhibitors to put thought into plans for a display and to get started on the work at once. Calls for sketches of exhibits will be made in May or June, and it is highly desirable that exhibitors shall have their plans well matured before that time, not only that they may be acted on favorably, but that proper time may be had by exhibitors for carrying out the plans made. It is stated that those who have exhibited at Chicago and Paris are the most prompt to perfect their plans for a display here, their appreciation of the advantages of appearing at a world's fair being greatest, and they being also thoroughly impressed with the importance of putting the utmost possible life and novelty into an exhibit.

In the course of my investigations during the past few days as to what steps are being taken by manufacturers to make a creditable showing at this exposition, I discovered that several novel features have been adopted by this management. Most of the heads of departments have passed through the last Paris Exposition, and many of them have had the experience of some sort of a connection with the Chicago World's Fair. They have thus gained a knowledge which is of great value in this instance. For one thing, it has been decided to make the classifications conform to those adopted by the Paris Exposition. Accordingly the department of manufactures is to have charge of three of the main buildings of the exposition, the varied industries, manufactures and textiles.

In the Varied Industries Building will be installed goods of a directly utilitarian nature and the machinery with which they are made. The Building of Manufactures will be devoted to the manufactured merchandise of a more artistic classification and the special machinery for its manufacture. The Textiles Building will contain all that pertains to fabrics, carpets, furs, skins, clothing, etc., and the machinery and processes for their production.

There are some thirty-three groups included in the classification of this department, and in every group enumerated is included the special machinery and processes for marking any of the goods under the headings, and this machinery will be installed in the same building with the goods themselves. In this way the processes of manufacture and the finished product will be seen together.

Furthermore, each building is to contain all that is to be seen in that line. Thus, when anyone wants to see what is being exhibited in the way of textiles he will find everything arranged under its proper group in the Textiles Building. The foreign exhibits will be installed in the same building with the American, arranged side by side, so that the visitor may readily find everything in a given line without difficulty, and may be assured that he has not missed anything of the special article or process in which he is interested. If, for instance, he be a buyer for a hardware house, he will find in the hardware section everything he is interested in from a business standpoint, so that when he has carefully studied this section he will have completed the business part of his stay at the exposition.

No information will be given out by the exposition management at this time, or indeed at all, up to the opening of the exposition gates as to what individual exhibits will be like or as to who will take part. This is for the reason that when a man goes to an expense of \$50,000 or so

for a novel and striking display it is not deemed just to him to indicate to a possible rival what he proposes doing. In a general way, however, it is stated that the list of displays, both foreign and domestic, which have already been secured are, considering the length of time before the exposition opens, of a number and character entirely satisfactory to the exposition management. Not only is this true as regards American exhibits, but it is definitely declared that never has an international exposition contained so many interesting exhibits from foreign nations as will be shown at St. Louis. Forty-five per cent. of the space here has been allotted to foreign nations, and the statement is made that a better display will be made here by the nations of Europe and the Continent than even the last Paris Exposition contained. As an instance, there was a display by a jeweler's syndicate at Paris which attracted the attention of everybody who went into the building where it was located. The same syndicate has arranged for an even more elaborate display at St. Louis. Then there will be a complete display of French millinery and costumes and their processes of manufacture. A magnificent display of German manufactures will also be made, and in England and all the nations of Europe arrangements are being

department, as elsewhere, the idea of operative exhibits will be adhered to, and it is declared that no class of exhibitors appreciate the value of live exhibits more than do the machine-tool people, and that their exhibits will be fully in keeping with their convictions.

In the department of electricity it is also intended to have as many processes as possible, and one of those now announced is a plant for the manufacture of incandescent lamps and another for the manufacture of telephone apparatus. The engineers of the world-renowned factories and operating companies are lending their best energies to the perfection of schemes whereby they can show visitors to the exposition the important processes which have become characteristic of the electrical work over which they preside. Wireless telegraphy will be one of the novel features of this department. Considerable attention will be given to long-distance transmission of power, wonderful advance in which has been made in recent years, until in California it is now being successfully transmitted a distance of 250 miles. The x-ray exhibit will also be on a large and entirely scientific scale. It is promised that there will be an altogether adequate display of all the various developments which have occurred in electricity since the Chicago World's Fair,

The scope of the department of forestry includes the entire timber industry, and promises to be far and away ahead of anything ever seen at a world's fair before. The presidents of the Hardwood Lumbermen's Association and the Southern Lumber Manufacturers' Association, both St. Louis men, as it happens, are giving the matter of a proper presentation at the exposition their personal attention, with the result that the membership of these important associations are earnestly co-operating in the effort to make the most complete and creditable showing possible. Then the government exhibit of forestry is to be placed in the forestry palace, and the "provinces"—Alaska, Hawaii, Porto Rico, Cuba and possibly the Philippines—will also have their forestry displays in the same building. And they will be very complete displays, too. Here there will also be as many operative exhibits as possible, such as saw-mills and the processes connected with the cutting, hauling, sawing and manufacture of timber into the merchantable product.

I have given this outline of features of the exposition affecting manufacturers so that there may be a thorough appreciation of the advantages which will follow participation in this greatest of all world's fairs. It has long gone past the stage of experiment, and now the only appeal

Bein, Jr., a visitor to the South; W. P. Martin of Thibodeaux, O. W. Crawford of New Orleans, J. Henry Shepherd of Shreveport, F. F. Phillips of Hattiesburg, F. M. Runnels of Meridian, F. Y. Anderson of the Queen & Crescent Route, Mayor F. M. Welch of Alexandria, La.; W. B. Bullard of Scranton, Miss.; H. B. Millikin of Lake Charles, La.; W. J. Miller of Birmingham, E. C. Drew of Monroe, La.; C. J. Fuqua of Baton Rouge, H. M. Mayo of Houston, J. P. Carter of Hattiesburg, D. Thomas Williams of Texas, General Passenger Agent C. L. Stone of the Louisville & Nashville Railroad, General Passenger Agent S. H. Hardwick of the Southern Railway, General Passenger Agent A. H. Hanson of the Illinois Central Railroad, General Passenger Agent Alex. Hilton of the Frisco system, General Passenger Agent E. P. Turner of the Texas & Pacific, E. L. Corthell, President M. J. Sanders of the Progressive Union, Prof. E. B. Ferriss of the Mississippi experiment station at McNeill, Prof. Robert Glenk of the Louisiana experiment station, T. Sambola Jones of Baton Rouge and others.

Commenting upon the organization, the New Orleans Picayune says:

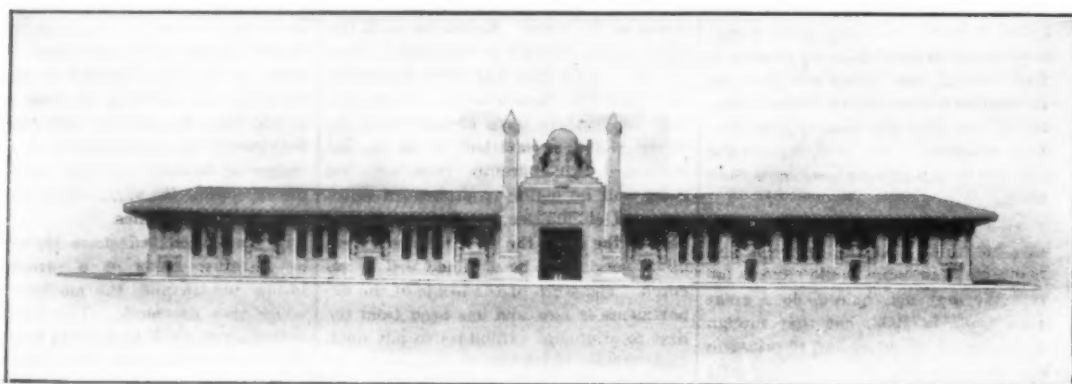
"The discussion and final decision were on the lines of active work to get good people to settle in the four States associated together, each city or parish or State looking after its own interests through the general organization. The addresses of the railroad passenger agents indicated that they were ready to work with the association and with each other in building up the States and making the population such that it would increase infinitely the earnings of the roads. It was made very plain that there was no sentiment in the matter, and that it was plain business and hard-fisted work that was intended. Those who had sentimental ideas lost them early in the discussion.

"The impression given of the meeting was that there would be no heed given to no sentiment in the matter, and that it would result in the most active and intelligent effort to settle up the vacant lands that has ever been made, and that the railroads will redouble their efforts in that direction."

Showing Their Faith.

Diversification of small industries is one of the most important factors in the growth of cities and towns. Communities in which the business men are ever ready to assist in the establishment of manufacturing and other enterprises are more likely to advance than those in which this spirit is lacking. An instance of assisting new industries comes from action taken at Rome, Ga., during the past week. Two propositions were made for establishing industries there—one a stove foundry and the other a knitting mill. The business men associated themselves to secure the enterprises, subscribed the money to buy a site for the foundry, thus ensuring a plant costing \$30,000 and employing about one hundred persons. They then subscribed sufficient capital to induce a Northern manufacturer looking for a more suitable location for his hosiery mill to remove to Rome. This will be a \$25,000 plant at the start, employing about one hundred persons. Rome's energetic citizens have thus demonstrated their faith in the possibilities of their city and section for advancing along industrial lines to greater things.

The suggestion has been made that the Maritime Exchange, the Board of Trade and the Mechanics, Dealers and Lumbermen's Exchange of New Orleans be merged.



MINES AND METALLURGY BUILDING, ST. LOUIS WORLD'S FAIR.

The dimensions of the Palace of Mines and Metallurgy of the Universal Exposition of St. Louis, 1904, are 525x750 feet. The building is divided into eight oblong parts almost equal in area. The division is accomplished with glass-covered and ventilated arcades from thirty to fifty feet wide, which make it possible that each one of the eight divisions shall receive abundant light from every side and that no skylights shall be necessary directly over any of the exhibition spaces. The ground floor will furnish an exposition space of about 265,000 square feet, and, happily for exhibitors and visitors alike, there will be no galleries. Mr. J. A. Holmes is chief of this important department of the exposition.

made for elaborate and wholly creditable displays on lines laid down by the exposition management.

In the machinery department all the power generated for exposition purposes will be made to form a part, and a most interesting one at that, of the exhibits. It is calculated that altogether some 20,000 horse-power will be utilized, this including every form, even to steam turbines, a very interesting display of which is to be made. Besides the various motors, apparatus for the transmission of power, machines for various purposes, machine tools, etc., much attention will be given to boilers and fuels, and this will be a notable innovation. Instead of the boiler-house being in an out-of-the-way place, and not intended for visitors, the boiler-house of this exposition will occupy a place of honor in the center of the grounds, and will be one of the most interesting spots on the ground to men engaged in industrial vocations. In it will be boilers of every make, both American and foreign, and also all kinds of boiler-feeding appliances, smoke consumers, etc. Briquettes, in use in Germany to such an extent that the greatest manufacturing centers are free from smoke; powdered coal, which is coming into use as a form of fuel; fuel-gas and fuel-oil—all these will be given a practical working demonstration here. Throughout the machinery

and while the electricity department has nothing to do with the scheme of outside lighting and novel effects, it may be mentioned here that there will be a lavish and most effective use of electric lighting throughout the grounds.

In the department of mines and metallurgy there will be shown the equipment and processes connected with the working of mines, ore-beds and stone quarries, and in some cases the ore will be followed to the manufactured product. For example, in connection with the lead industry all the important processes will be shown from the crushing of the ore down to the manufacture of shot. For zinc, copper and gold the metallurgical processes will be shown in practically the same degree of completeness. In the iron and steel industry, while the more important metallurgical operations cannot be shown in the same way, they will be shown by specimens, models, photographs and charts. On one side of the Mines Building is a hill which rises to a height of forty feet above its floor, and into this hill will be run underground tunnels to illustrate methods of tunneling, timbering and the underground transportation and handling of ores. On the ground adjacent to the building is an additional area of ten acres for such out-of-door exhibits as will illustrate the drilling of oil wells, the operation of stamp mills, hydraulic mining, etc.

made by the management to those who are capable of making exhibits is to put thought into a plan for an effective, working exhibit, and do it at once.

ALBERT PHENIX.

FOR COLONIZATION.

Four Southern States to Continue Their Efforts.

The gathering last week at New Orleans, under the auspices of the Progressive Union, of leading railroad officials and of delegates from commercial bodies of Louisiana, Texas, Mississippi and Alabama resulted in the organization of the Four-State Immigration League, with Messrs. A. F. Thomasson of Hattiesburg, Miss., president; H. M. Mayo of Houston, Texas; Charles Schuller of Shreveport, La., and W. J. Miller of Birmingham, vice-presidents, and Tom Richardson of New Orleans, secretary. The organization will have semi-annual meetings, designed to induce co-operation in bringing to the four States represented in it desirable immigrants. The gathering was addressed by Messrs. Tom Richardson, secretary of the New Orleans Progressive Union; George H. Smith, general passenger agent of the Queen & Crescent Route; S. F. B. Moree, assistant passenger traffic manager of the Southern Pacific; Dr. Milton Whitney of the United States Agricultural Department, Julius

In 1860 the packing with the key. The tion and u winter pac September came. It trade and beef. Th from Chic and gave hogs. Th 4,800,000 summer p per cent. 000 hogs 1901 33,0 inspected The hog a swung to scrub catt from Nor east of N of the ent tral Stat world our had outgr America v foreigners additional increased cordingly. to overco to finally with the grown p tomers pa The me it seems with all o herds or present fo a faster eigners. our more to make in the p accelerate while ad that of which th of the E noticeable would pro tion of States se 000,000 If these if along w the enor from Au plight of view, wo to the at tions of t tween po Populat that mil the Unit continent widened, to supply ing condi between supply. ers is an a brief l examina position The co edible an ation, pl 000. Th 300,000, these, ho

WHY CATTLE PRODUCTS ARE HIGH.

By JOHN F. HOBBS, New York.

[Written for the Manufacturers' Record.]

In 1890 Chicago killed 20,000 hogs, and the packing center was in Cincinnati, with the live-stock center in the Ohio valley. There was then no ice and refrigeration and no summer-packing season. The winter pack was then 1,000,000 hogs. In September, 1869, the first refrigerator came. It introduced the dressed-beef trade and carried the first car of dressed beef. That was consigned to Boston from Chicago. Refrigeration took hold and gave us the first summer pack of hogs. The winter pack that year was 4,800,000 hogs. From 1873 to 1880 the summer pack of hogs rose from 8½ to 37 per cent. of the whole. In 1880 11,000,000 hogs were killed at abattoirs. In 1901 33,000,000 hogs were killed at the inspected abattoirs, and 40,000,000 in all. The hog and beef centers were gradually swung to Chicago and Kansas City. The scrub cattle are located south of a line from North Carolina to Arkansas and east of New Mexico, while 51 per cent. of the cattle are herded in the north-central States. Refrigeration made the world our market. European population had outgrown its local flocks and herds. America was called upon to help feed the foreigners. This increased demand gave additional value to our stock and meats, increased the kill and sent prices up accordingly. The ultimate result has been to overcome any surplus on this side and to finally put the American in competition with the European for his own home-grown products, and to make both customers pay for the viand.

The meat problem is more serious than it seems to the lay mind. This country, with all of its natural facilities and great herds or flocks, is traveling towards the present food conditions of Europe, and at a faster gait than that made by the foreigners. This is made so by the fact that our more congenial conditions contribute to make a larger per cent. of net increase in the population. This multiplicity is accelerated by the influx of aliens, who, while adding to our population, decrease that of the respective countries from which they come. The present deficiency of the European meat supply is not so noticeable, because the distress which it would produce is alleviated by the importation of foreign meats. The United States send abroad annually about \$200,000,000 worth of meats and provisions. If these exports were discontinued, and if along with them there were discontinued the enormous shipments of frozen meats from Australasia and Argentina, the plight of Europe, from a food point of view, would protrude its ghastly spectacle to the attention of the world. The nations of the Continent had a long race between population and the edible animal. Population won, and, in spite of the fact that millions of the enters migrated to the United States, the gap between the continental meat supply and the populace widened. The importer was called upon to supply the deficiency. There is no living condition which can restore the parity between Europe's population and its meat supply. The dietary state of the foreigners is an embarrassing predicament. Take a brief look at that and then make an examination of the live-stock and food position of this country.

The countries of Europe have about one edible animal to each head of the population, placing the population at 325,000,000. The census of its edible live-stock is 300,000,000 head in round numbers. Of these, however, only 100,000,000 head are

cattle. Fifty years ago there were nearly two animals per capita. The United States, with a population of 75,000,000, have 67,000,000 cattle. The sixteen countries of Europe have 57,000,000 hogs. The United States have 62,000,000 hogs. Great Britain, inclusive of Ireland, and the continental countries combined have 165,000,000 head of sheep. This country has for less than one-fifth of Europe's population 62,000,000 sheep. Averaging the live weights of the animals of the respective countries at the same, it is seen that the foreign countries under notice have (at 1200 pounds to the bovine) 120,000,000,000 pounds of live beef, or 309 (186 dead) pounds per head of the population, as against 904,000,000,000 pounds in this country, being 1205 pounds live and 603 dead beef per capita. The percentage of pork is even greater.

The relation of hogs to the population may be seen in the following figures:

Year.	Population.	Hogs owned.
1830.....	296,520,000	48,738,000
1890.....	325,180,000	57,189,000
Germany alone:		
1890.....	50,240,000	12,174,000
1900.....	56,370,000	16,807,000
The other fifteen countries:		
1890.....	246,240,000	36,564,000
1900.....	269,110,000	40,382,000
Fourteen countries outside of Europe:		
1890.....	107,870,000	63,860,000
1900.....	128,590,000	70,920,000
The United States:		
1890.....	61,620,000	57,430,000
1900.....	75,000,000	62,670,000
The other thirteen countries outside of Europe:		
1890.....	45,250,000	6,430,000
1900.....	52,210,000	8,040,000
The thirty countries named above:		
1890.....	403,330,000	112,600,000
1900.....	452,770,000	129,110,000

It will thus be seen that the United States have 6,000,000 more hogs than all of Europe together, the United Kingdom thrown in. Averaging the live hogs at 200 pounds each, the transatlantic countries have 11,537,800,000 pounds of pork on the hoof, or nearly thirty-five and one-half pounds per capita, while the United States have a bit over 167 pounds, or three and five-sevenths as much per head as that of Europe. In this fact nestles the reason for our great export trade in hog products. No serious competition can come from any outside source.

The world's population is getting far and away ahead of its available meat supply, and mankind, as the countries fill up and feel this lack of flesh and food, turn to cereal and vegetable products. Thus we find the Hindoo and the Mongolian drifting to rice and to other substitutes for his ancient, but decimated, herds of buffalo, zebu and other animals. That may also be the Chinaman's excuse for the introduction of the edible dog and rat into his diet. The Malay and other tropical races do not necessarily require a heat-producing food. The sun performs that function for them. If this were not true, the universe would find itself with about 1,100,000,000 head of edible live-stock of every description with which to feed its 2,000,000,000 people, thus giving about half an animal—roughly, seventy-five pounds of live or thirty-eight pounds of dead fresh meat—to each person.

The human race has eaten, the live-stock of the world to a standstill. In the progress of man and of animal life the multiplication of the former has so outstripped the latter that the decennial ratio of the two has increased to an alarming extent in the last fifty years. It is a remarkable fact that the hog and the steer have followed the white race with great partiality. Of the 310,000,000 head of cattle in the world, about 225,000,000 head of them are in Europe and on the North American Continent. The same

countries own more than 75 per cent. of the swine herds of the universe, so far as statistics can inform us. My travels in China, however, lead me to believe that a hog census of that country would startle the world. China is not only full of pig-tails, but of pigs as well. On the basis of America's supply the Celestial Empire would have to possess 440,000,000 cattle, 415,000,000 hogs and 400,000,000 sheep—1,265,000,000 head in all—and kill annually 100,000,000,000 pounds of dead meat for her 500,000,000 people. But the Mongolian packing-house is a rarity. The rice patch takes its place.

"Westward the course of empire takes its way," said the poet, "And stops in America," added the wag. It seems that a stop was made, and that we have not only our own salvation to work out, but that we have, by common consent and by the inexorable law of supply and demand, become the caterer for the 325,000,000 people of Europe, the distant civilized and semi-civilized races and to our Hispanio-American wards under the Monroe doctrine. In view of the above facts, it will be interesting and worth while to examine our domestic live-stock and meat conditions and their relation to prices and the populace. The meat situation during the last two years has made the source of the meat supply one of deep concern to both the economist and the consumer.

We have entered upon a period of permanently high meat prices in this country. This state of affairs is a commercial product of our industrial condition. This is true because our population, like that of Europe, is increasing faster than is the supply of live-stock. The era of prosperity and the greater world demand for meats during the last five years drew more heavily than usual upon the herds and flocks; so much so that there was a startling slaughter of breeding stock, such as heifers, cows and sows.

Another invasion was made in the excessive slaughter of calves for veal and of very young steers for what is popularly called "baby" beef. The demand for tender meat has made veal and immature beef popular. This killing off of the young animals has tended to destroy both the base of production and the old taste for a matured beefy steak or roast.

The government's annual industry figures for the animal kill are for the official or government-inspected abattoirs only. There are 150 of these. There are about 900 more of corporate and private abattoirs. There is also the kill of individuals. These are not included in the government's figures. The slaughter of calves at the inspected abattoirs will indicate the increase of calf slaughter, which was as follows:

Year.	Population.	Hogs owned.
1890.....	59,000	
1902.....	93,000	
1893.....	96,000	
1894.....	116,000	
1895.....	256,000	
1896.....	279,000	
1897.....	244,000	
1898.....	246,000	
1899.....	315,000	
1900.....	400,000	
1901.....	500,000	

This does not really present the startling fact, as the real growth of the calf slaughter has been at the farm and the unofficial small stock abattoir. In New York city alone the slaughter of calves has grown in five years from 100,000 to 250,000 head. It increased at Chicago as follows: 1900, 113,077; 1902, 200,000 calves. That ratio of increase obtains more or less all over the North and the Northwest, chiefly in the dairy States, where the sucking calf must give way for milk and butter. Many States endeavored to restrict this calf destruction by the passage of immature—commonly called "hob"—veal laws. The slaughter of calves increased more than 50 per cent. during the past five years.

The gravitation of beef and hog killing is to the great slaughtering centers and that of sheep and calves to the smaller abattoirs and the individual butcher. While the 150 official or government-inspected abattoirs kill about 50 per cent. of the 11,000,000 cattle slaughtered in this country annually and about 80 per cent. of the 40,000,000 hogs packed, they kill less than 25 per cent. of the total slaughter of calves and about 30 per cent. of that of sheep. These facts show that the farmer is eating mutton, selling his wool and also helping the city connoisseur to decimate his calf herd. The number of native calfskins pulled and sold to tanners annually present the alarming fact that our calves are going in comparatively larger numbers annually. This helps the undermining of breeding conditions. With hogs it is different. Insuperior "baby" pork is not popular, and suckling pigs do not sell readily. The litter runs from four to a dozen pigs. Good weather and a good average littering season makes up a hog crop. The calf-drop is not so variable. The trouble which comes from the public taste for young beef is that it takes a greater number of cattle to produce the same amount of meat now than it did in the olden time, when cattle were not often killed under four and five years of age—that is, until after they were grown, developed and matured.

Since 1891 the average live weight of beef animals sold at slaughtering centers have varied as follows, the figures between 1891 and 1895 being estimated and those for subsequent years official:

Year.	Weight.
1891.....	1190
1892.....	1173
1893.....	1165
1894.....	1145
1895.....	1132
1896.....	1118
1897.....	1081
1898.....	1061
1899.....	1075
1900.....	1065
1901.....	977

The following are the receipts of hogs, cattle and sheep at the five principal live-stock distributive centers for the past nineteen years:

CATTLE.	St. Joseph.
Kansas City, Chicago, Omaha, Louis.	
1902.....	1,112,942
1901.....	1,112,942
1900.....	1,112,942
1899.....	1,112,942
1898.....	1,112,942
1897.....	1,112,942
1896.....	1,112,942
1895.....	1,112,942
1894.....	1,112,942
1893.....	1,112,942
1892.....	1,112,942
1891.....	1,112,942

SHEEP.	St. Joseph.
Kansas City, Chicago, Omaha, Louis.	
1902.....	1,112,942
1901.....	1,112,942
1900.....	1,112,942
1899.....	1,112,942
1898.....	1,112,942
1897.....	1,112,942
1896.....	1,112,942
1895.....	1,112,942
1894.....	1,112,942
1893.....	1,112,942
1892.....	1,112,942
1891.....	1,112,942

SHEEP.	St. Joseph.
Kansas City, Chicago, Omaha, Louis.	
1902.....	1,112,942
1901.....	1,112,942
1900.....	1,112,942
1899.....	1,112,942
1898.....	1,112,942
1897.....	1,112,942
1896.....	1,112,942
1895.....	1,112,942
1894.....	1,112,942
1893.....	1,112,942
1892.....	1,112,942
1891.....	1,112,942

On the above receipts the 6,094,846 cattle received at the leading centers in 1890 weighed, at 1190 pounds each, 7,252,846,360 pounds, while the 7,652,679 head received in 1902, at the average weight of 977 pounds, weighed 7,476,662,383 pounds. The percentage of beef increase is small for a decade. The actual beef slaughter at the same centers showed a loss for the later period. The slaughter at the same points in 1896 showed an excess of 615,000,000 pounds of carcass beef over 1902, though nearly 200,000 fewer cattle were killed. It showed a shortage of 158,013,982 pounds over 1901. All of the cattle received were not killed. Some of them were sent to the country. The actual slaughter at Chicago, Kansas City, Omaha and St. Joseph was:

	Cattle.	Hogs.	Sheep.
1892.....	5,031,308	13,858,344	6,194,299
1901.....	4,809,628	16,118,869	5,160,356
1900.....	4,300,171	15,228,467	5,043,696
1899.....	3,972,128	13,521,423	5,148,593
1898.....	3,864,582	14,511,214	4,688,608
1897.....	3,674,827	12,258,488	4,638,911
1896.....	3,960,716	10,035,405	4,294,727
1895.....	3,608,245	9,632,581	3,593,806
1894.....	3,992,466	9,164,345	3,265,298
1893.....	4,117,965	6,616,463	3,277,385
1892.....	3,944,531	8,057,056	2,111,909
1891.....	3,569,735	9,291,525	1,889,641

This decade is taken because in it vital statistics and commercial conditions face each other in deadly earnest.

The movement of live-stock at the leading centers like the above is the barometer of the movement all over the country. The kill at those centers also measurably represents the increase or decrease of the annual national slaughter of domestic animals for food purposes.

It is a remarkable fact that the beef slaughter at centers did not materially change in the decade from 1891 to 1900. Then it met the war demands upon our own and foreign governments. This excessive demand and a better state of trade served to pull the light cows and younger cattle into the market and to lower the average weights per head. The farmer yielded up his cattle, grew more vegetables and ate less meat. The movement of stock at the chief distributing points is indicative of the general movement and state of the slaughter herds. There were received at the four chief centers the following:

	Chicago.	Kansas City.	St. Louis.	Omaha.	Total.
1890.....	3,481,000	1,472,000	511,000	615,000	6,079,000
1902.....	2,947,000	2,082,000	1,113,000	1,008,000	7,150,000

	Hogs.
1890.....	7,693,000
1902.....	7,883,000

In none of the years between did the general hog movement vary 1,500,000 or the cattle movement 500,000 head. In the meantime population had jumped from 62,000,000 to 76,000,000. While population is forging further ahead, both the hog and cattle receipts and slaughter have receded since 1900 and will not catch up again. The average weight of the hogs marketed in 1902 was 220 pounds; in 1901, 226 pounds; in 1900, 233 pounds, and 240 pounds for the year before that. In the year back of that they averaged heavier still. There has been a net loss of about 10 per cent. in weight in 1902 over 1890 and an actual shortage of 3,500,000 hogs in 1902 over 1901 at centers. The loss in beef weight has been noted, as well as the shortage of 500,000 head of cattle. The heavy hog runs were in 1891, 1897, 1898, 1899, 1900 and 1901. The light run of 1902 was, therefore, natural, the war demands and the source of supply being both exhausted. The conditions noted above have laid the foundation for the present shortage and high prices, and they will be sufficient to account for the meat scarcity which will prevail for some time.

It is difficult to give the actual relation of population to live-stock in this country,

as the census was not properly taken until 1900. The proportion, however, can be gauged from the receipts of marketable stock at the slaughter points, because the base of supply has yielded relatively fewer stock at higher prices on a big demand. The logical inference, therefore, is that the source of supply was culled of all animals that it could supply even at nine cents per pound live weight for hives last summer. Take top prices. The extreme prices per 100 pounds live weight for 1300 pounds to 1500 pounds and 1800 pounds prime corn-fed native steers were as follows:

Year.	1300-lb. steer.	1500-lb. steer.	1800-lb. steer.
1878.....	\$1 70	\$5 00	\$5 50
1879.....	5 00	6 50	7 00
1880.....	5 50	6 00	7 00
1881.....	7 00	7 25	8 00
1882.....	9 00	9 00	9 30
1883.....	7 00	7 12	7 25
1884.....	7 00	7 25	8 00
1885.....	6 10	6 00	6 50
1886.....	5 80	6 10	6 50
1887.....	6 25	6 25	6 50
1888.....	6 40	6 75	7 00
1889.....	4 70	5 40	6 10
1890.....	5 10	5 40	6 40
1891.....	6 20	6 50	7 15
1892.....	5 85	6 25	7 00
1893.....	5 80	6 05	6 75
1894.....	6 40	6 40	6 60
1895.....	6 25	6 40	6 60
1896.....	5 85	6 50	6 25
1897.....	5 60	6 00	6 00
1898.....	5 90	6 15	6 25
1899.....	7 20	8 25	8 25
1900.....	8 50	11 00	15 50
1901.....	8 75	12 00	9 30
1902.....	9 00	9 00	11 50

This represents extreme values, and not general trading.

The yearly average prices for native beef cattle was as follows:

Year.	900 to 1000-lb. steers.	1500 to 1900-lb. steers.
1892.....	\$1 45	\$5 25
1894.....	4 25	4 75
1896.....	4 50	5 20
1898.....	4 65	4 40
1899.....	4 50	4 65
1900.....	5 20	5 75
1901.....	5 15	5 55
1902.....	5 25	5 95

Other cattle sold on the same relative rising and falling scale. The following figures tell their own economic tale.

The difficulty in comparing the live-stock statistics of 1900 with those of other decades comes from the fact that the very young calves and lambs and pigs were not properly estimated in the censuses until two years ago. In some cases does and buffalo were included. The figures can, however, be taken as comparative, as the several censuses prior to that of 1900 were taken in the same way and represent to each other and the population about the same thing. The population of this country, not including Alaska, was as follows:

	Cattle.	Sheep.	Hogs.	Population.
1880.....	25,616,000	22,471,000	33,518,000	31,442,000
1870.....	23,820,908	28,477,000	25,134,000	28,558,000
1860.....	35,925,000	35,192,000	47,681,000	50,155,000
1850.....	52,801,000	44,336,000	51,602,000	62,622,000
1900.....	63,000,000	61,000,000	62,000,000	76,000,000

The number of cattle per 100 people was 81 in 1860, 71 in 1880, 84 in 1890, 82 in 1900 and 77 in 1902.

The estimate for 1902 is on the assumption that cattle have held their own, while population has gained only the natural increase. The fact is, we have 1,000,000 fewer cattle than in 1900.

The number at this writing is less, but is due to the overslaughter of cows, heifers and calves because of the short supply of beef for the medium-price market. It took ten years to catch up the losses during the war decade.

The vital statistics tell their own story of the relative increase of population over live-stock. The migration of the population from the farms to the cities concentrates the eaters, reduces the comparative number of producers and enhances food prices. In 1850 there were 1,449,073 farms to the 23,000,000 people, and 20,000,000 of them were a non-urban population, or 87 per cent. living in the country, producing. In 1900 we had 5,739,657 farms and a non-urban population of 51,000,000 out of nearly 76,000,000 people.

This shows that a third of the population had drifted to the cities and towns. They created a demand for meats and raised the per-head value of cattle from a nominal price to an average of \$22 per head in 1900 and of \$42 per head in 1902.

The big demand calls for meats. The high prices call stock to market in an undergrown and underfinished condition. Instead, therefore, of having a five-year-old grown, matured and finished steer, weighing 1400 to 2200 pounds, we get the same beast at 900 to 1800 pounds. You seldom see a four-year-old in the pens these days. The run consists of one, two and three-year-olds, the two-year youngsters being the most sought after. As the percentage of population to live-stock is increasing with each decade, as the slaughter of calves and heifers is relatively on the increase, and the butcher taste runs to lighter animals, there is no chance to bring about a parity of conditions and a permanent lowering of meat and cattle prices. Our feeding and range conditions are also becoming more expensive. Among those packing-house expenses are the extra costs of fuel, installation, freights, wages and other incidents of the factory. The item of wages alone discloses the fact that the 250 plants in 1860 paid their 5058 employees \$1,010,000, or \$202 per head; the 768 plants in 1870 paid \$2,553,000 to 8366 hands, or \$305 each; the 872 plants in 1880 paid \$10,508,000 to 27,297 employees, being \$400 each; the 1118 meat factories in 1890 paid \$27,305,000, or \$620 per hand. During the next decade girls and women were largely introduced because of the canning business. In spite of this fact, the 921 plants in 1900 paid their help \$33,457,000, or \$500 each. The above figures exclude general staff and clerks.

There is but one thing that can bring old-time cheap cattle and meat prices—a financial crash and widespread poverty. That would be a national calamity. If the veal habit became extinct and calves were allowed to grow, the herds would improve. Hogs will go by seasons, and sheep are likely to be plentiful.

OIL ON A BUSINESS BASIS.

Flourishing Southern Conditions Reflected at Beaumont.

Jason C. Moore, president of the Beaumont (Texas) Trust Co., writes to the Manufacturers' Record as follows:

"Throughout Texas and the South generally a new era of development has come during the past few years, and we believe it will continue to grow and develop the latent resources of our marvelous country.

"The South is rapidly recovering from the Civil War effects, and as time heals the wounds a new courage fills our people with hope, and they catch the spirit of this progressive age, and nothing seems too great for them or too good.

"During the past two years our immediate vicinity has been born again, so to speak, and though passing through an exciting period such as has not been seen, perhaps, in any other section of our land, during the present generation at least, the finding of oil has made millionaires out of poor men and established permanent business enterprises that mean much to our State and the country at large, as it is conceded that there will be a permanency to this line of business that will aid in fostering and developing many other interests.

"During the oil excitement no doubt unscrupulous people in the North and East floated many a balloon with their gas, and the unfortunate public are wondering still when their dividends will come down. But the public that are born gamblers, it would seem, never stopped to ask who

were at the head of these incorporations, and though they suffer, Beaumont suffered also in a way.

"The sifting process has been going on among the oil companies here until a comparatively few now control the situation, and this is better, probably, for the interest as a whole.

"The steady advance in consumption of oil has forced the advances in price. New oil developments are going on steadily at several points in our vicinity, and on a settled business basis.

"The South still continues to draw financial aid from the East during her cropping season, but year by year our people are better able to care for their wants in this respect, and much Eastern capital has been permanently and profitably invested here, and we still welcome it, as our whole Southland is in need of and capable of sustaining a vast amount of enterprise.

"The development of our railroad systems has done much for the South, and they have become valuable investments to the owners.

"It is well known that in the matter of lumber the millmen of the North have turned their forces Southward, and many millions of dollars have been invested in our forests of pine and hardwoods, so that Texas, Arkansas, Louisiana, Mississippi and Florida are today supplying a vast amount of lumber to the Northern and Eastern markets, and the question is often asked already, where will we get lumber from a quarter of a century hence? But it is not our Southern nature to borrow trouble, if we do sometimes borrow money from our great friends in the East.

"The financial institutions of the South should frown upon all doubtful enterprises, and use their best endeavors to see that all obligations entered into with capital in the East are exactly fulfilled. In this way we can soon gain the confidence of the capitalist which we deserve.

"We look forward to a very prosperous and profitable business in the rice industry in Southeastern Texas and Louisiana. We consider this branch of business one of the leading and most durable agricultural enterprises in that portion of the country.

"We have no complaint to make, and much to be thankful for in the South."

Southwestern Rice.

Some facts of interest anent the rice industry are gleaned from the report of the Rice Millers and Distributors' Association of Louisiana and Texas. It is shown that the stock of rough and clean rice in the two States is about 940,000 bags. The statement is as follows:

Louisiana—Rough rice, 418,472 sacks; clean rice, 319,973 sacks; total, 738,445 sacks. Texas—Rough rice, 107,576 sacks; clean rice, 94,572 sacks; total, 202,148 sacks. Total for two States, 940,593 sacks.

It is estimated that the total receipts of the season will reach 3,000,000 sacks. This stock is reported as being considered limited to meet the probable demands before the new crop comes in.

In this connection it may be mentioned that it is possible purchases will be made of American rice to cover an existing shortage in the Philippine Islands.

A colony of Japanese will experiment in cultivating rice near Port Lavaca, Texas. Dr. S. A. Knapp, president of the Rice Association of America, believes that the Japanese, with their knowledge of rice-growing, may form a very acceptable colony.

During the past year 1,203,439 cattle, 2,235,631 hogs and 723,347 sheep were slaughtered at Kansas City.

JACK AND THE BEANSTALK AND SOUTHERN ILLITERACY.

(The Lost Moral of a Fairy Tale.)

By EDWARD INGLE.

[Written for the Manufacturers' Record.]

In the absence of some of its leading members, who were holding its annual meeting in New York, the Southern Education Board sent from its propagandist headquarters at Knoxville, Tenn., the startling statement that "the problem of Jack and his beanstalk suggests the remedy" for illiteracy in the South. The problem and its solution were set forth in the statement as follows:

"Jack and His Beanstalk, or the Decrease of Illiteracy in the South.

"If Jack climbs his beanstalk at the rate of a mile a day, and the beanstalk grows at the rate of a mile and one-quarter a day, when will Jack reach the top of his beanstalk? Plainly, only after he has begun to climb faster than the beanstalk grows."

There is a kindergartenish playfulness about that proposition deserving of more attention than the "statistics" accompanying it. But even as sober consideration of "statistics" in this connection must be relinquished as a hopeless task, so the only thing about the proposition which a few moments of leisure permit to be mentioned is the fact that the unfortunate allusion to Jack and the beanstalk as bearing upon the Southern Education Scheme would not have been made by anyone acquainted with the story of Jack and its obvious moral.

What are the facts about Jack?

As detailed to very youthful persons, some of them seem to contradict one another. For example, children are told that though Jack and his widowed mother were very poor, and that an old cow was his only birthright, he was not big enough to dig and plow and attend to the farm. But presently he is found carrying down the beanstalk two bags of gold as large as beehives. The conclusion is that Jack, while having all the wit and weight required to work the farm, was not big enough in years, and was prevented from working honestly by some sort of prehistoric "child-labor" law. At any rate, he was obliged to sell his birthright, the cow, for a hatful of beans, which he was told would make his fortune.

Jack's mother was an eminently practical-minded woman. She lived too long ago to enjoy the blessings of such philosophy as "as is education so is production," or "we must make money before we can even have schools, and the very first thing is to train our people to produce," for "the schools are poor because the people are poor, and the people are poor because the schools are poor, which in an earlier form read:

There was a man in our town,
And he was wondrous wise;
He jumped into a bramble bush
And scratched out both his eyes.
And when he saw his eyes were out,
With all his might and main,
He jumped into another bush
And scratched them in again.

She, however, wanted the coin of the realm, and in blissful ignorance of any connection between beans and ultimate human happiness through education and production she spurned the proffer of the philanthropist who now owned her cow. She therefore threw the beans out of the window, where, under the nurture of divers bi-metallic fairies, one of the beans sprouted and became a mighty growth, reaching far out of sight.

There may or may not have been a compulsory education law in that day. Probably there was not. Certainly Jack did

not need compulsion to overcome his ignorance, or illiteracy, as the Southern Education Board confuses the words; for of his own will he climbed the stalk and met another philanthropist in the disguise of a fairy, who pointed him to a giant's castle, telling him that if he would be brave and not let the giant eat him he would get a lot of money. The giant's wife fed the boy and hid him from her husband. The fruits of Jack's victory over illiteracy, his ascent of the beanstalk, were quickly seen; for as soon as the giant had fallen asleep Jack seized two bags of gold belonging to the giant and made his way home.

Here was a definite illustration of the truth of the aphorism that "as is education so is production"—the accumulation of wealth. But Jack's education was of the progressive sort. Having overcome illiteracy once, he thought he would try it again; for his gigantic benefactress had told him that her husband owned a hen which laid golden eggs. In his post-graduate course Jack naturally thought that while education which would result in production was pretty good, it wasn't near as good as the education which would result in production without any labor on the part of the educated person. So he determined to have that golden-egg-laying hen. And he had it.

A moment's thought of fowls and the intimate relations existing between them and the influence, the presence of the negro in the South, which is directly and indirectly responsible for the statistics of Southern illiteracy convinces one that the natural order would have been for Jack to have taken to chicken-stealing first, and to advance with "education" to stealing money. Be that as it may, he continued to advance. He longed for culture.

In those days melodeous and parlor organs had not been invented, or Jack would certainly have browsed around after one. But he did the best he could. On a second visit to the giant's castle Jack had seen a lovely golden harp which played beautiful songs when it was told to do so. Doubtless the love of ease had been so cultivated in Jack by the exploits of the golden-egg-laying hen that he had become too tired to tickle his banjo when he wanted music. He must have a self-acting musical instrument. So he stole a harp. His last feat in his "educational" career was his undoing. It resulted in the death of the giant, and, presumably, of the hen and in the destruction of the harp; for we find Jack and his mother buying back the cow, and "they lived happy ever after."

The moral of which is: We had better stick to the old cow, provided we can prevent theorists from obstructing us and our boys in efforts to raise enough fodder for the cow and the natural increase. Philanthropists, with their beans, and fairies with silver wings and golden rakes cultivating the beanstalk of our "education," are dangerous creatures. If you don't believe it, read the story of Jack and his beanstalk, ponder upon its obvious moral, and wonder why in the world the Southern Education Board suggests that it be applied to the problem of Southern illiteracy.

N. B.—Perhaps the Southern Education Board had in mind the revised version of the fairy tale, to the effect that the giant had stolen the valuables from Jack's father. But the revision was obviously

intended to mitigate Jack's delinquencies, and an attempt to apply it to the "problem" would lead only to even greater embarrassment.

TO MANUFACTURE AT HOME.

Best Disposition of West Virginia's Raw Material.

Howard Sutherland, general land agent of the West Virginia Central & Pittsburg Railway Co. and Davis Coal & Coke Co., Elkins, W. Va., in a letter to the Manufacturers' Record writes:

"In West Virginia business conditions continue, in the main, satisfactory, and the outlook for 1903 is most promising. There is an active demand for all the products of the State, the difficulty being to supply the demand. Wages generally are higher than ever before. Inadequate railroad facilities appear just now to be the principal bar to the State's progress. Existing trunk lines find it difficult to move the freight offered, and are unable to provide cars in satisfactory quantities. This condition will be generally ameliorated when the railroads now in course of construction are completed and fully equipped.

"What we most need, perhaps, is a continued and systematic effort to increase the manufacturing done in the State. Nature's vast stores of raw material are being shipped from the State in ever-increasing quantities to be manufactured elsewhere, and then to be purchased and returned in the shape of finished products. Concerted action should be taken toward such an adjustment of freight tariffs or manufactured products as will encourage manufacturing within the State to get the full benefit of its wealth of raw material. Such a policy would inure greatly to the permanent advantage of the railroads, as well as to our Commonwealth.

"Your valuable publication has done much to effect such results in the more Southern States, and no doubt you will continue to call attention to the need of such a movement in this State."

The Price of Oil.

Referring to a declaration by the Boston Post that in the last six months the price of kerosene oil has been advanced from ten to fifteen cents a gallon, and that meantime the price of crude petroleum with the development of new oil territory was never so cheap, the New York Commercial says:

"If the Post knows anything at all about the rise and fall of prices in any commodity, it must know that the price of a manufactured product rarely moves up or down except as it follows fluctuations in the raw material. The cost of manufacture much more closely approximates a stable figure than either of the other factors in price. As a matter of fact, the price of kerosene oil in this instance has simply followed that of crude petroleum. That was inevitable. It couldn't be helped. Not even the Standard Oil Co., with all its alleged power and influence, can keep the one price low while the other is jumping up daily.

"In an article on oil prices in its issue of December 13 the Commercial showed that the quotations for crude petroleum were at that time unprecedentedly high. Pennsylvania oil was then \$1.51 per barrel, and the advances in all grades made during the past six months have much more than equalled 30 per cent. of the total price of crude oil.

"It has been due directly and wholly to decreased production and an increased demand. The visible supply of crude oil has been steadily and rapidly shrinking for many months past. The net decline in the stocks of the Pennsylvania and

Lima oil fields during November was 599,208 barrels, and during October 591,693 barrels, and the total stocks at the close of November were the smallest since February, 1900. During September the net decline was 207,850 barrels. The August decrease was 422,377 barrels. Between December 31, 1900, and December 31, 1901, the Pennsylvania stocks decreased 3,754,296 barrels.

"And yet, in the face of these facts, the Boston Post declares soberly that 'crude oil was never so cheap,' and intimates that the 'trust' is responsible for death and suffering because it doesn't keep the price of kerosene down to ten cents a gallon.

"Boston will be more logical all around when it thaws out in the spring and gets over its shivers."

FIRMNESS AT BIRMINGHAM.

And There Are Preparations for a Big Rush in Iron.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., January 19.

The following seems to be the range of prices for iron in Birmingham today for delivery during the last three months of the first half of the year: No. 1, \$21 to \$22; No. 1 soft, \$22; No. 2, \$20 to \$21; No. 2 soft, \$21.50; No. 3, \$18.50 to \$19; No. 4, \$17.50 to \$18; gray forge, \$17.

Some iron has been sold to be delivered after July 1, but not a great deal, from what I can hear, for two reasons—one, that there has not been any decided demand for it, and the other, that buyers are seeking to get prices shaved down a little from a basis of \$20 for No. 2. It does not seem that anybody is going to consider anything less than that price, or about it, for the late in the year deliveries, and buyers are pretty sure, from what can be seen of the situation, to pay that figure for what they get.

Careful scrutinizers of the market are getting in shape for a big rush before any great length of time. This is bound to come, they say, because they must have iron to carry on their business, and have it not to any appreciable extent yet. An immense volume of inquiries for all grades has begun, too, to flow in during the past week or ten days.

There does not seem reason to believe that there will be any especially large increase in the production of iron in the State for 1903, the outlook now being for an increase of about 150,000 tons. There will be furnaces enough to more than run it over this, but it is estimated that with those which will be taken out from time to time for rebuilding and repairs, it will not go above that figure. It is expected that the raw-material situation will also have something to do with keeping the production down. It is thought that some of the buyers are going on the idea that the production is going to overrun the consumption, but those best posted take no fears to themselves that any such thing will come about.

The main strength of this situation is this: The Northern furnaces are going to have, from all accounts, considerable trouble to get raw material, and what they fall short in the general output must be made up by the Southern territory. For some time now local coke-makers have been asked to furnish prices on coke for Northern furnaces which are outside the charmed circle of the steel trust and cannot get fuel up there. All this seems to indicate that there will be some falling off of production in the North, and that Alabama may have to "work overtime" to make it up.

It would seem that gray forge still has a firm hold on its place in the center of the stage. It is known that a good round sale was turned down this week for \$17.

There does not seem to be any great desire on the part of either side to trade along these lines, the furnaces believing that nothing less than \$17.50 is worth while, and holding out for that price, while the consumers contend that that price is above what they can afford to pay and come out on what they have to get from it.

While there have not been any recent sales for delivery in this month to speak of, there has been a large shipment from all parts of the district, in fact, way beyond last year at this time. While there is not a condition of close-up sales for first half of the year, the furnaces are comfortably contracted for, and are in no hurry to push matters.

The outlook for raw material is, if anything, better in this district now than for some weeks past. The shortage of ore has pretty well passed away. Most of the outdoor mines are being worked, and there is more coke. The Tennessee Company has shut down a number of ovens at Blocton because the coal is of more profit than the coke, and the Empire Coal & Coke Co. has contracted to build 250 ovens.

The appreciation of the stock of the Sloss-Sheffield Steel & Iron Co. is a source of congratulation in Alabama, of course. It is reported that dividends will be paid on the common stock this year.

The Bessemer Land & Improvement Co. has gone down on a fine seam of coal at Bellellen. This company is opening up a slope at Scottsville, on the Mobile & Ohio, near Blocton, that will be ready before very much longer for shipping, that represents an investment of \$50,000. The Galloway Company, which owns the mines at Carbon Hill and Galloway, is opening up near Scottsville at a cost of something like \$50,000. It is in a seam of four and one-half feet known as the Thompson seam. The new opening of the Bessemer Company is in the Woodstock seam.

The first shipment of Bellellen coal to Boston was made yesterday, when the American steamship Orion loaded 2000 tons at Pensacola of what is heard to be a large order.

Much interest attaches to the determination of the Tennessee Coal, Iron & Railroad Co. to build a new furnace at Ensley. President D. H. Bacon says it is not the intention of the company to have any more furnaces at Ensley than at present, and the new one will simply take the place of an old one. It takes about fourteen weeks to put a furnace out and repair it and then put it back to work. It takes seven to eight months to move a furnace and rebuild it. The demand for iron is such that the company prefers to make the short cut with the old furnaces and have the new one to take the place of those out from time to time being rebuilt. The company has decided to rebuild all of the Ensley stacks. This will be done as soon as the new furnace is in blast. When this is ready for work an old stack can be taken out and no depreciation in the output result. Then one will be out all the time being rebuilt until the last, when a stop will be made at most with five, as is now the number, possibly with four. In the rebuilding the capacity will be so increased in each iron that with even four the output will be greater than it is now, and with five much more. The new furnace will have a 20-foot bosh, 13-foot hearth and be 85 feet high. Its maximum capacity will be 350 tons a day. The equipment of the whole plant will be thoroughly modern. Skip hoists will be set in at each furnace, and the latest thing in the way of labor-saving machinery be put to service. The coal and ore will be brought in such way as to fall to the bins and save the cost of old-style ways of loading; in fact, Mr. Bacon gives

it out that the Ensley plant is to be the most complete thing in the way of a furnace plant in the South.

The Southern Bar Iron Association held a meeting here last week and decided to make no change in prices just now. Another meeting is called for New Orleans on February 23.

The furnace of the Central Iron Co. at Tuscaloosa is nearing completion. At the mines several thousand tons of coal have been stacked up waiting for a chance to transport it. If all troubles now being experienced can be overcome, the furnace should be in by the first of June.

H. W. L.

Growth at Jennings.

[Special Cor. Manufacturers' Record.]
Jennings, La., January 17.

At a recent meeting of the Commercial League of Jennings, La., held on the 8th, Mayor Humphrey welcomed a large party of merchants and bankers from Indiana. In a special report Secretary W. E. Dods-worth showed that during the past two years the population of Jennings had increased from 1593 to between 3800 and 4000. The equalized assessment for 1901 was \$659,000; for 1902 it was \$964,815, an increase of \$305,725. During the past few months there have been organized the Jennings Building and Loan Association, with capital of \$5,000,000; Union Oil Refinery, \$50,000; Crystal Ice Co., \$50,000; Walker Dry Goods Co., \$20,000; Southwestern Engineering Co., \$6000; Patterson Bros. Co., \$5000, besides a number of oil companies.

There are in course of construction the Mahaffey Hotel, at a cost of \$60,000; city hall, \$10,000, and schoolhouse, \$20,000. Water-works and sewerage, nearly completed, will cost \$36,000, and an estimated cost of new buildings and repairs is \$40,000.

The city council now has under consideration the paving of Main street and other improvements, and a handsome new depot of the Southern Pacific is promised.

The receipts of rice show about 155,000 sacks, and shipments of over 116,000 sacks. We have two rice mills with a daily capacity of 800 sacks.

The Jennings oil fields have ten producing wells, and those in authority say that 6000 barrels daily will flow from them. The shipments for the year 1902 were 418,000 barrels. We also have two pipe lines.

The business of our two banks make a most satisfactory showing. Loans and discounts, etc., \$622,125.18; cash, \$70,086.37; deposits, \$500,546.23; capital and surplus, \$129,839.70.

The receipts for freight and passenger service show an increase over 1901 of over \$100,000.

The assessment for the parish of Calcasieu shows an increase of \$1,724,460 over 1901.

Jennings exempts factories from taxation until 1910. D.

At Johnson City.

[Special Cor. Manufacturers' Record.]
Johnson City, Tenn., January 17.

The application of the Johnson City Traction Co. for an electric street railway franchise has been passed on a second reading in the city council. The company proposes to build one mile within nine months, and to have three miles in operation within three years.

It is given out that the Cranberry Furnace Co. has let the contract for another 250-ton furnace, and it is rumored that the same company intends putting in a steel plant in the near future.

[A telegram from the Cranberry Furnace Co. at Johnson City to the Manufacturers' Record disclaims knowledge of the undertakings rumored.]

Minerals Near Cleveland.

[Special Cor. Manufacturers' Record.]
Cleveland, Tenn., January 19.

This is not only a manufacturing town, for around and close into the city we have minerals in very considerable quantities. Almost within the corporate limits of the place baryta is found, and great quantities of this mineral have been shipped from this place in the past few years. In the county south of the town the Hardwick and Blue Spring mining companies have opened up lead mines, and the veins that have been developed by these companies are very rich in lead ore, with some silver and zinc. North of the town, and near the town of Charleston, in this county, a company of non-resident capitalists is opening up a large vein of lead ore that is very rich. This particular vein of ore was worked some during the war by the Confederate government.

The Cleveland & Ducktown Electric Railway Co. has organized here, composed of both local and non-resident parties, whose purpose is to construct and operate an electric railway from Chattanooga and Cleveland, Tenn., to Ducktown, Tenn., the great copper-mining district of this State in Polk county, on the A. K. & N. Railway. In connection with this railway this company proposes to use the water-power of the Ocoee river not only to operate its trains, but for sale to the cities of Knoxville, Cleveland and Chattanooga for any and all purposes for which electricity is used. J. L. SMITH.

To Advertise Huntsville.

[Special Cor. Manufacturers' Record.]
Huntsville, Ala., January 19.

The New York-Alabama Oil Co. began drilling wells three miles from Huntsville this week, and splendid indications are offered for a fine gusher this side of 2000 feet.

The Chamber of Commerce, R. E. Pettus, president, has instructed the advertising committee of that organization to expend \$300 in advertising the advantages and resources of Huntsville for investors and homeseekers. Oscar Goldsmith is chairman of the committee. Mr. Pettus says that Huntsville is on the eve of a great industrial awakening, and that he firmly believes this place will soon be one of the greatest manufacturing centers in the whole South. He is in correspondence with a number of good concerns who express a willingness to come here if the proper inducements are offered.

It is reported that a new mining district will be opened in North Alabama, and that Mr. W. I. Wellman, president of the Farmers and Merchants' National Bank of this city, will be interested.

Some Impotent Giants.

In a delightfully sarcastic vein the New York Press suggests, in view of the rapid advance in the price of kerosene oil, that the Standard Oil "trust" be disciplined by going at the tariff hammer and tongs!

"Let us by all means," it exclaims, "control the Standard Oil 'trust' by getting at the tariff—there being no tariff on petroleum!"

The Press is entitled to have its little pleasantry, of course. But it is evidently serious when it says that "the price of oil is going up as the price of nothing else in general use is going up." And, one may fairly assume, the cause of this advance is, in the opinion of our contemporary, some arbitrary action on somebody's part, for it adds in the very next breath: "The oil business of this country is entirely in the hands of a 'trust.' It is the most complete, the most absolute, the richest earner of all the 'trusts' in the world."

Nobody ought to be deceived by that. Everybody of ordinary intelligence knows

that there are scores and hundreds of firms and companies outside the Standard engaged in the production, distribution and sale of petroleum. The oil business of this country is not "controlled" by any "trust" or any person. The independent operators would themselves scoff at the charge that they are "controlled" by anybody or anything.

And just now the so-called oil "trust" discloses its utter and absolute impotency in the matter of "controlling" prices of that product. They are advancing through the operation and the force of the law of supply and demand. All the "trusts" this side of hades can't keep down the price of oil when the visible supply of it is rapidly decreasing through physical inability to keep the production of it up to the volume of its consumption.

And, in passing, we might mention the so-called steel "trust"—quite a sizable and mighty concern, we have time and again been told. That giant corporation sets a value of \$100 a share on its common stock. The public says "Nay, nay!" and won't pay but \$35 apiece for the things. And all the Morgans in Christendom can't move that stock up or down unless the supply of it and the demand for it are changed from their present relations to each other.

There are still some simple-minded folks in these United States who fondly imagine that the prices of commodities can be fixed by statute purely.—New York Commercial.

For Cold-Water Paints.

The Manufacturers' Record has an inquiry from London for the names of reliable American firms not already represented in Great Britain which manufacture cold-water paints. The Manufacturers' Record will forward to London replies to the inquiry.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

A shipment last week from the rice mill at Port Arthur to New Orleans filled a solid train of thirty cars. It was valued at \$35,000.

Dr. W. C. Stubbs and his assistants of the Louisiana sugar experiment station are preparing for a complete survey of the Louisiana oil field.

A number of investors and capitalists from Illinois have been inspecting conditions along the lines of the Southern Pacific system in Texas and Louisiana.

The New Orleans Board of Trade has elected Messrs. J. Henry Lafaye, president; James W. Porch, Simon Steinhart and William E. Stauffer, vice-presidents.

The Memphis Merchants' Exchange elected Messrs. Alexander Allison, president; W. D. Thomas, vice-president, and John H. Watkins, treasurer. Mr. N. S. Graves is secretary.

The San Antonio Business Men's Club has elected Messrs. H. E. Hildebrand, president; W. L. Stiles and Charles Graedner, vice-presidents. Mr. Charles N. Knight is secretary.

During 1902 the tonnage of vessels launched at the shipyards of Baltimore, Newport News and Richmond was 15,503, and on January 1, this year, a tonnage of 107,900 was under construction.

It is expected that Mr. Charles R. Boyd of Wytheville, Va., who has devoted twenty-five years to a study of the mineral resources of Virginia, will prepare a spe-

cially-designed geological map of the State as part of its exhibit at the St. Louis Exposition.

The Board of Trade of Jacksonville, Fla., has elected Messrs. Charles E. Garner, president; W. W. Cummer and A. F. Perry, vice-presidents, and Charles H. Smith, secretary and treasurer.

The Richmond Chamber of Commerce has re-elected Messrs. H. L. Cabell, president; E. G. Leigh, Jr., James R. Gordon, vice-presidents; John H. Montague, treasurer, and R. A. Dunlop, secretary.

It is announced that Mr. William C. Sullivan has become a director in the Anglo-Iberian Association of Madrid with the object of developing trade between the United States and Spain.

The Norfolk Chamber of Commerce has elected Messrs. W. R. Mayo, president; F. S. Royster and C. W. Priddy, vice-presidents; Caldwell Hardy, treasurer, and W. H. Lumsden, secretary and traffic manager.

During fifty-four months since the present oyster law of Virginia was passed the State has received from the industry \$234,462.11, and has expended on that account \$106,180.30, leaving a net revenue of \$128,281.81.

The New Orleans Progressive Union has elected Messrs. M. J. Sanders, president; Albert Godechaux and T. F. Cunningham, vice-presidents, and Henry F. Baldwin, treasurer. Mr. Tom Richardson is secretary-manager.

The National Board of Trade has elected Messrs. Blanchard Randall of Baltimore, president; B. R. Eckhart of Chicago and W. P. Kennell of St. Louis, vice-presidents, and William R. Tucker of Philadelphia, secretary and treasurer.

The Norfolk (Va.) Board of Trade and Business Men's Association has elected Messrs. W. T. Anderson, president; A. M. Higgins and Harry Hodges, vice-presidents; J. P. Williams, treasurer, and E. E. Dawes, secretary and statistician.

The Merchants and Manufacturers' Association of Baltimore has elected Messrs. Lloyd L. Jackson, president; William T. Dixon, E. Stanley Gary, Reuben Foster and Robert M. Sutton, vice-presidents, and Lawrence B. Kemp, treasurer. Mr. Clarence H. Forrest is the secretary.

R. G. Van Newkirk of Hyndman, Pa., and associates have optioned 1000 acres of coal lands near Hazen, Md. They propose to develop the property after a series of prospecting has been completed. They have purchased 225 acres of glass-sand rock which analyzes 92.34 per cent. glass, and propose mining same to the extent of 500 tons daily. This tract of sand rock, its purchasers state, is as fine as any the country contains.

Messrs. Justice Cox, Jr., C. H. Williams and James T. Graff, all of Philadelphia, Pa., have purchased the properties of the Alexander & Rich Mountain Railway Co. and 15,000 acres of coal and timber lands belonging to the Rich Mountain Lumber Co. They will operate these properties, continuing the railway under its present title. The coal-mining and lumber-manufacturing company will be continued as the Randolph Coal & Lumber Co. The acreage of coal will be thoroughly developed. Mr. Cox is well known as a member of Justice Cox, Jr., & Co., Ltd., 552 Bullitt Building, Philadelphia, dealers in iron and steel, railway equipment, coal and coke.

RAILROADS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

MACON RAILWAY PLAN.

Issue of \$750,000 First Consolidated Mortgage Bonds—Financial Statements.

The Macon Railway & Light Co. of Macon, Ga., which represents the consolidation of the Macon Consolidated Street Railroad Co., the Macon Electric Light & Railway Co., the Metropolitan Street Railroad Co. of Macon and the North & South Macon Street Railroad Co., and embracing the entire street-railroad, electric-lighting and power business of that city, has issued \$750,000 of first consolidated mortgage 5 per cent. 50-year gold bonds, dated January 1, 1903, and due fifty years from date. Interest on these bonds is payable January 1 and July 1, and subscriptions, as will be seen in another column of the Manufacturers' Record, are being received at 97½ and interest by J. Wm. Middendorf & Co. of Baltimore, John L. Williams & Sons of Richmond, Va., and the Savannah Trust Co. of Savannah, Ga.

The capital stock of the company consists of \$300,000 preferred and \$900,000 common. The bonded debt, as stated, is \$750,000, and of this amount \$44,000 are held in the treasury, together with \$17,000 preferred stock and \$13,200 common stock, to retire \$45,500 of outstanding 6 per cent. bonds of the Macon Electric Light & Railway Co. It is stated that during 1901, when the properties were operated independently by antagonistic interests, the gross earnings were \$177,866.23, operating expenses \$119,504.89, and the net earnings \$58,361.24. The entire interest charge of the new company on the underlying 6s and the \$706,000 of new 5s is \$38,030, leaving a surplus of \$20,331.34. A statement for the six months ended November 30, 1902, shows gross earnings of \$104,973.14, and net earnings \$47,378.44. Against this are the fixed charges for the six months, consisting of interest on the two classes of bonds and taxes, amounting altogether to \$22,910.74, leaving a surplus of \$24,467.70. Improvements, betterments and extensions are being made at a cost of \$150,000.

The president of the company is T. J. Carling of Macon, Ga., and the vice-president is W. W. Mackall, president of the Savannah Trust Co. of Savannah, Ga.

NEW YORK TERMINAL.

Plans Ready to Begin Work on the Long Island Power-House.

Westinghouse, Church, Kerr & Co., recently appointed mechanical and electrical engineers and constructors for extensive work in connection with the Pennsylvania Railroad's great terminal tunnels and station in New York city, have completed plans for the Long Island power-house, so that work there may begin immediately.

The entire terminal problem is under a commission of engineers consisting of Col. Chas. W. Raymond, United States army engineer New York harbor, chairman; Chas. M. Jacobs, C. E., chief engineer North river section; Alfred Noble, C. E., chief engineer East river section; William H. Brown, chief engineer Pennsylvania Railroad, in charge of tracks and terminal yards; Gustav Lindenthal, C. E., bridge commissioner of New York city; Geo. Gibbs, M. E., first vice-president of Westinghouse, Church, Kerr & Co., in charge of mechanical engineering, electric locomotives and traction. It will be noted that the work is again departmented within the members of the commission.

The architectural work has been dele-

gated to McKim, Mead & White, who have also made Westinghouse, Church, Kerr & Co. their engineers, and these three organizations will work with the chief engineer and management of the road to produce the tunnels and terminal structure. Westinghouse, Church, Kerr & Co. have furthermore been appointed in a similar capacity for electrifying the Atlantic Avenue Line of Long Island Railroad, which will be served from the Long Island power-house, erected in the joint interest of the properties represented. The commission meets at regular intervals with representatives of the architects and the mechanical and electrical engineers present. Westinghouse, Church, Kerr & Co. have also formed a special Pennsylvania Railroad Terminal committee to control their part in the work.

IRON MOUNTAIN & GREENBRIER.

It Will Open Up Coal and Iron as Well as Timber Lands.

The Iron Mountain & Greenbrier Railroad, for an extension of which a map was recently filed at Marlinton, W. Va., proposes to build about fifteen miles to Huntersville. The road now consists of eighteen miles of line running northeast from the Chesapeake & Ohio Railway at White Sulphur Springs, W. Va., along Howard's creek, Fleming run and Anthony's creek to Alvon and Shryock. The extension is to go up the north fork of Anthony's creek between Middle mountain and Beaver Lick mountain to Knapp's creek, thence to Huntersville.

The contract will, it is expected, be awarded about February 1, and, according to reports from that part of the country, the new railway will open up coal mines and iron-ore deposits. The road is a lumber line, controlled by Thomas J. Shryock & Co. of Baltimore, and the officers are Thomas J. Shryock, president, and George F. M. Hauck, purchasing agent, Baltimore, Md.; F. A. Hauck, secretary and treasurer; Daniel O'Connell, general superintendent, and P. B. Houston, chief engineer, Ronceverte, W. Va.

Double-Track Building.

Matthew Addy & Co.'s Weekly Report, from Cincinnati, has the following to say about transportation conditions and requirements:

"In the South there is the same old story regarding the car shortage. In the North there is the same old story regarding the coke shortage. There is one thing, however, that is very apparent, and that is that the Cincinnati Southern to Birmingham at least, and the Louisville & Nashville as well, must in the immediate future be double-tracked. These roads have done everything possible to take care of the great iron industries which are situated on them, but they are single-track roads, and this fact has hampered them immensely. Single tracks were good enough ten years ago, but the business of the South and the North has outgrown them.

"It is to be noted as the most significant fact in the industrial history of the South for many years that the Ensley steel mill of the Tennessee Company is now making steel rails of standard railroad sizes. These rails have come up to every chemical and physical test required by the most exacting specifications. This fact marks a new era in Southern developments."

The Louisville & Nashville has already begun to build second track, and the Queen & Crescent Route is here and there putting in long sidings which will eventually make it a double-track road. How speedily the second track will be completed appears to depend not only upon

the demands of transportation, but upon the facility with which rails can be obtained.

Texas & Oklahoma.

President F. N. Finney of the Missouri, Kansas & Oklahoma Railroad, in a letter to the Manufacturers' Record confirms the report that the contract for the Texas & Oklahoma Railroad has been awarded to McArthur Bros. of Chicago. The Texas & Oklahoma will be 117 miles long, and will connect the Coalgate branch of the Missouri, Kansas & Texas Railway with the Missouri, Kansas & Oklahoma Railroad at Oklahoma City. The building of this line will give the Missouri, Kansas & Texas two lines running northwest from its north and south main line through Indian Territory. The first of these roads is that now building from Wybark via Coweta and Tulsa to a point near Cleveland, Okla.; the second is the Texas & Oklahoma, the building of which will necessitate the construction of a bridge across the Canadian river. This contract is to be completed by October 1 next. The Wybark-Cleveland line connects with the M., K. & O. line now being built from Bartlesville, I. T., via Cleveland to Oklahoma City.

Street-Car Lines Purchased.

Dispatches from Roanoke, Va., report the sale of the Roanoke Railway & Electric Co. to Philadelphia capitalists and the election of new officers as follows: President, A. R. Apperson, Lynchburg, Va.; vice-president, Charles R. Miller, Philadelphia; secretary-treasurer, F. H. Shelton, Philadelphia; general manager, J. W. Hancock, Roanoke, Va.

The former officers were: President, J. B. Fishburn; vice-president and general manager, J. W. Hancock; secretary and treasurer, E. B. Fishburn. The directors were J. B. Fishburn, J. W. Hancock, Edward L. Stone, James C. Cassell, James P. Woods, S. S. Brooke of Roanoke, Va., and John Gill of Baltimore, Md. The capital stock was \$200,000, and the bonded debt \$300,000 of first mortgage 5 per cent. bonds and \$190,000 of second mortgage income 4 per cent. bonds.

According to the dispatches, the new owners take all of the capital stock and a large block of the bonds. There are eighteen and one-half miles of track.

Carrollton Short Line.

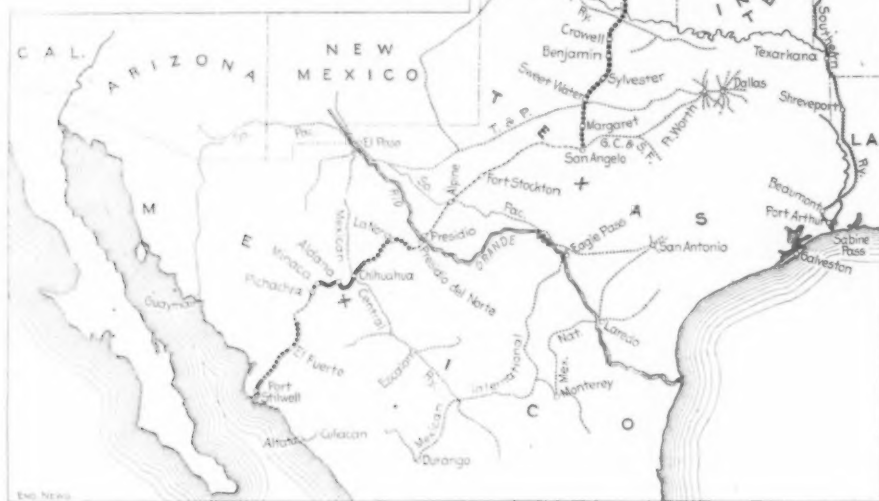
The Carrollton Short Line Railroad, which was built about two years ago from Reform, on the Mobile & Ohio Railroad, ten miles to Carrollton, the county-seat of Pickens county, Alabama, and was recently extended from Carrollton to Alice City, Ala., eleven miles, is now twenty-one miles long, with a standard-gauge track of 56-pound rails. It passes through a fine farming and hardwood timber country, and there are several large new saw-mill plants along the line, which traverses Pickens county from north to south and furnishes transportation for a region that was without railroad facilities. Its president is John T. Cochrane, a young man of energy and capacity, who originated and built the road, and is now owner of it. The region penetrated by the Carrollton Short Line is said to offer excellent advantages for homeseekers, and at low prices for good land.

Cincinnati to Louisville.

The proposed Cincinnati & Louisville Railroad, which is to be an extension of the Cincinnati, Richmond & Muncie, is reported as being financed by W. A. Bradford of Boston, Mass.; Henry C. Starr of Richmond, Ind., who represents Mr. Bradford, and Thomas J. Newkirk, also of that city, are likewise interested.

KANSAS CITY, MEXICO & ORIENT RAILWAY.

Present Stage of Construction
on Arthur E. Stilwell's
New Pacific Line.



The accompanying map shows the progress that has been made on the construction of the Kansas City, Mexico & Orient Railway, which is to be 1600 miles long from Kansas City to Port Stilwell, on the western coast of Mexico. Track has been laid upon 172 miles of the line, this track including the Chihuahua & Pacific Railway in Mexico and eighty-four miles of line in Kansas and Oklahoma, part of the latter being in operation, as well as is the Chihuahua & Pacific. Track materials have also been ordered for nearly 350 miles more of line. Grading has been done on 530 miles of the road, right of way has been secured for 792 miles, and the line has been located for 825 miles. Three surveying parties are in the field in Texas and three in Mexico. Rails for 250 miles of track have been ordered from the Carnegie Steel Co. and 7000 tons of English rails are now being shipped to Port Stilwell, so that tracklaying may be pushed from the Pacific coast.

The Union Construction Co. of Kansas City has the contract from Kansas City, Mo., to Fairview, Okla., and the International Construction Co. of Kansas City has the contract for about 1100 miles across Texas and Mexico. Separate contractors are building the intermediate link, and at the Pacific end of the road the railroad company is doing some of its own work. A large portion of the grading is being done by the Kaw Valley Construction Co., and many subcontracts are let.

Great efforts have been made to secure, as far as possible, a low-grade line. The maximum grade for 330 miles out of Kansas City is 5 per cent., and beyond to the Mexican boundary the maximum will be 1 per cent. On the mountain division in Mexico grades of 2 per cent. and curves of 9 degrees will be used, but it is stated

that the grades and general location are much easier than on the mountain divisions of any other transcontinental lines. River crossings are avoided as far as possible, so that the bridge work is comparatively small. On the Pacific slope the maximum grade is 1 per cent.

The map here presented through the courtesy of the Engineering News was prepared by the chief engineer of the company, Mr. M. P. Paret.

One of the most important parts of President Stilwell's plan will be the building of the Kansas City terminal for the road. This is provided for by the organization of the Kansas City, Outer Belt & Electric Railroad, which is to leave the main line west of Kansas City, Kan., and, running through the northern part of that city, will branch near the Missouri river, one line crossing the Kansas river near its mouth and into Kansas City, Mo., while the other will cross the Missouri river into Clay county, where large terminal yards are to be established and where branches will also extend to the Hannibal bridge and the Winner bridge, giving two other entrances to Kansas City, Mo. West of Kansas City, Kan., where the Belt branches from the main line, there will also be yards and another branch running southeast to connect with the Union Terminal Railroad.

To provide for the construction of the Outer Belt, that company will issue \$3,000,000 of 4 per cent. 50-year gold bonds, \$2,250,000 of 4 per cent. preferred stock and \$2,250,000 of common stock, and the United States & Mexican Trust Co. of Kansas City, Chicago, New York and London is now offering for sale \$1,500,000 of the 4 per cent. bonds, which are to be a first mortgage upon the property. The proceeds from the sale of these securities will be sufficient to build the

main double-track line and the bridge over the Missouri river. This will leave \$1,500,000 of bonds in the treasury for extensions and betterments as future demands may require.

The Belt Line will be seven miles long, double track, from North Kansas City to the Kaw valley, where the main line of the Orient begins, and where the Belt will connect with the Union Pacific, the Rock Island and the Santa Fe railroads. The line will not only be short, but of low grades, enabling it to be operated at light cost, estimated at 30 per cent. of the gross earnings. Ninety-pound rails will be used, and the track will be laid with tie plates and cross-ties. Edward Dickinson, lately general manager of the Union Pacific Railroad, will have supervision of the construction. The fixed charges, it is stated, will be less than one-half those of either of the two belt lines now in operation in Kansas City. The line will connect directly with all railroads entering Kansas City excepting the Chicago & Alton, and arrangements are being made to connect with that road. The situation of the line is such that it will have ample facilities for handling the heavy interchange of freight between the north and east sides and the south and west sides of the city without using any portions of the tracks which are now overburdened with business. It is thus designed to give entrance to Kansas City not only to the Orient Railway, but to furnish similar services to all the other railroads entering there. The word "electric" is included in the title of the company because it is proposed at some day to build two additional tracks to afford entrance to Kansas City to a number of suburban electric railways. The line will be for the present solely a steam road.

advantages, no superior as a health resort in the Eastern section of the country, another Saratoga by nature." He also says that the new line will turn all its freight over to the Western Maryland.

Rumored Railroad Deal.

Dispatches from Talladega, Ala., report that the Birmingham & Atlantic Railroad has been purchased by the Seaboard Air Line Railway Co. The rumor is as yet unconfirmed. The Birmingham & Atlan-

tic consists of forty-six miles of road, the main line being twenty-three miles long from Talladega, Ala., to Pell City, which is the western terminus of the East & West Railroad of Alabama, that was bought by the Seaboard some time ago. The Birmingham & Atlantic also has a branch from Ragan Junction, twelve miles to Choccolocco; another branch runs from Cook Junction, eight miles to Cook Mine, and there is an extension to Talladega three miles to Weisner Mines. The road is controlled by Ladenburg, Thalmann & Co. of New York.

Okolona to Derma.

W. H. Wells, engineer of construction of the Southern Railway Co., writes the Manufacturers' Record from Washington, D. C., that the new line out of Okolona, Miss., is being built by the Southern Railway Co., and not by the Mobile & Ohio Railroad, as was reported in dispatches. He says that the line will be a comparatively light one, traversing an agricultural country and ending in a timber section. The contract, dated January 1, 1903, has been awarded to H. C. McCrary & Co. The length of the road will be thirty-eight miles, starting from Okolona, passing through Houston, twenty miles distant, and terminating at Derma, Miss.

Railroad Notes.

Plans are under consideration to build a new union station at Shreveport, La., to cost about \$450,000.

The Southern Railway Co., according to a dispatch from Durham, N. C., will enlarge and improve the depot there.

It is reported that the Pennsylvania Railroad Co. will lay rails made of nickel-steel on heavy curves. An order for 5000 tons to cost \$370,000 has been given.

Large Deal Closed.

The deal for the purchase of the United Electric Light & Power Co. of Baltimore by a syndicate, the transaction including the Mount Washington Electric Light & Power Co., has been closed by the payment of \$904,237.39, through the Continental Trust Co. of Baltimore, to the United Railways & Electric Co. of that city, which owned control of the electric-light and power companies. The syndicate proposes to utilize the water-power of the Susquehanna river at near Conowingo, Md., to operate large power-houses which will develop sufficient electricity for the needs of Baltimore, Md.; Wilmington, Del., and Philadelphia, Pa. S. Davies Warfield, president of the Continental Trust Co., and others of Baltimore, Philadelphia and New York are interested. L. B. Stilwell, electrical director of the New York subway, and others have, it is stated, reported favorably upon the Susquehanna plans.

Prof. E. J. Forney of the commercial department of the North Carolina State Normal and Industrial College at Greensboro is the author of a brochure entitled "The Manufacturing Cost: How to Obtain It," designed to facilitate the movement for improvement in the accounting department of industrial establishments. The publication is arranged in most businesslike manner, and its language is so simple and direct that it has been found valuable as a text-book, one of the best technical schools of the North having already adopted it for its senior class. With the publication is bound the ruling of a cash-book which is intended to revolutionize office work on the general and credit customers' ledgers. In this cash-book a double-entry set of books can be kept with about the same amount of work as a single-entry, with infinitely better results to management promised.

Catoctin to Frederick.

President Steiner Schley of the Monocacy Valley Railroad Co. writes from Catoctin Furnace, Md., to the Manufacturers' Record regarding the proposed line from Catoctin Furnace to Frederick. The Monocacy Valley Railroad extends at present from Catoctin Furnace northward to Thurmont. It is now proposed to build southward along the valley. Mr. Schley says that the Monocacy Valley &

Frederick Railroad has \$120,000 capital and will be thirteen miles long from Catoctin to Frederick. At Catoctin it will connect with the Monocacy Valley line, which connects with the Western Maryland at Thurmont. The proposed extension will run through a section of country abounding in grain, milk, limestone and iron ore. It will also pass near a tract of land famous for its mineral springs which, the writer says, when developed will have, "with its natural ad-

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

Chiquola Plant Completed.

One of the many mill enterprises announced during 1902 was the Chiquola Manufacturing Co. of Honea Path, S. C. The construction of the plant has been in progress for some months, and it is now completed. Operations will begin in another week. This company organized, with capital stock of \$200,000, and announced its purpose to equip with 11,280 spindles and 300 looms, but upon completing its buildings installed 15,360 spindles and 400 looms. Product will be 39-inch 68x72 4.75-pound sheeting, about 200 persons being employed and 4000 pounds of cotton being used daily. The main building is 130x160 feet in size, remaining open at one end to permit of extensions in the future. Lombard Iron Works of Augusta, Ga., furnished boilers; Wm. A. Harris Steam Engine Co. of Providence, R. I., engines; Kitson Machine Co. of Pawtucket, R. I., pickers; Saco & Pettee Machine Works of Newton Upper Falls, Mass., cards; Whitin Machine Co. of Whitinsville, Mass., spindles; Draper Company of Hopedale, Mass., looms. J. E. Serrine of Greenville, S. C., was the architect and engineer. James D. Hammet is president of the Chiquola Manufacturing Co.; R. M. Shirley, vice-president, and John B. Humbert, secretary. Messrs. Woodward, Baldwin & Co. of New York and Baltimore are the selling agents.

A 10,000-Spindle Addition.

One of the most successful cotton mills in the South, and one of which the public hears little, is that conducted by the Odell Manufacturing Co. at Concord, N. C. This company held its annual meeting last week, and the reports of the management presented some interesting facts regarding the enterprise. The company declared a semi-annual dividend of 4 per cent., charged off \$50,000 for wear and tear of machinery (making \$100,000 for this purpose in two years), and added an amount to its surplus fund, increasing same to about \$270,000. The stockholders also authorized at the meeting the issuance of additional stock to the amount of \$100,000, almost all of which was subscribed at once. This new capital will be expended on the erection and equipment of an addition to contain 10,000 spindles. Its product will be fine yarns up to 60s. The Odell plant at present has 30,000 ring spindles and 1726 looms, and its capital before this increase was \$500,000. It uses about 10,000 bales of cotton annually, and during 1902 manufactured 21,694,413 yards of cloth.

Woodside Cotton Mills.

The Woodside Cotton Mills of Greenville, S. C., now building plant to have 10,000 spindles and 300 looms, plans to continue its establishment to one of 30,000 spindles and 900 looms. To effect this enlargement it is proposed to increase capital from \$200,000 to \$400,000, the entire capital being issued as common stock.

In planning the original mill the designs provided for an enlargement of this extent at a minimum cost, and it is deemed

advisable to take this action now as the original mill is nearing completion. The company states that an additional expenditure of about 50 per cent. will enable it to enlarge the present accommodations and provide the extra machinery as mentioned. Light-weight fancy goods is to be the product. J. D. Woodside is secretary.

A 43,000-Spindle Mill.

Reference was made last week to the progress being made on the construction of the \$300,000 dam and power-house for Dan River Power & Manufacturing Co. of Danville, Va. It was also stated that the company intended to proceed with its original plans, as announced last September, for erecting two mills of 40,000 spindles and 1200 looms each. The company now advises contractors that bids will be opened soon for erection of the first mill (to contain 43,000 spindles), together with weave shed and clothhouse. Those desirous of bidding on the work are invited to address the secretary, R. A. Schoolfield, for full particulars. Messrs. Lockwood, Greene & Co. of Boston, the architects in charge, can also be addressed. The usual bonds will be required from successful bidders.

A \$25,000 Knitting Mill.

Arrangements have been completed for the establishment of a large knitting mill at Rome, Ga. The enterprise will consist of an established plant which its Northern owner made a proposition to remove to Rome. The product will be 300 dozen pairs of hosiery daily, about fifty hands to be employed at the start. Messrs. Charles S. Pruden, W. J. West, John Berry, Houston Harper and others are interested. They will incorporate as the Rome Hosiery Mills, capital stock \$25,000, with privilege of increasing to \$250,000.

The Cotton Movement.

In his report for January 16 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 138 days of the present season was 7,448,908 bales, an increase over the same period last year of 23,827; the exports were 3,947,394 bales, a decrease of 108,624 bales; takings by Northern spinners 1,214,662 bales, a decrease of 6179 bales; by Southern spinners 927,415 bales, an increase of 99,474 bales.

Textile Notes.

Waxahachie (Texas) Cotton Mills has declared an annual dividend of 12 per cent.

Eagle and Phenix Mills, Columbus, Ga., will erect an addition and install machinery for manufacturing cotton rope. Construction of the required building has begun.

Messrs. Stehli & Co., 103 Green street, High Point, N. C., will build the silk mill reported lately at High Point, N. C. Site has been purchased, and a decision as to the further details will be made soon.

Messrs. S. B. Turner, W. T. Hasty and R. W. Mitcham of Camden, S. C., have incorporated the Vulcan Supply Works, with capital stock of \$5000, for manufacturing and dealing in cotton-mill supplies.

Williamsburg (Va.) Knitting Mill Co. is about to put its plant in operation. It had been idle for some weeks past while extensive improvements were being made. A number of new knitting machines have been added.

The directors of United States Cotton Duck Corporation of Baltimore held a meeting in New York last week. They elected Charles K. Oliver, president, to

succeed Trenor L. Park of New York, who resigned.

E. Shields Hosiery Co. will establish knitting plant at Manchester, Va. Its equipment will be removed from Scotland Neck, N. C., the change being made to be located where more labor can be readily secured. R. E. Reichelt is manager.

James L. Wood of Morristown, Tenn., will establish a knitting plant. He intends to install twelve machines and manufacture men's hosiery. A suitable building has been secured for the enterprise. Operations will be conducted under the title J. L. Wood Co.

E. L. Shuford Manufacturing Co., Brookford, N. C., contemplates adding 11,000 spindles and 300 looms to its equipment. If it is definitely decided to purchase this additional machinery the new spindles and looms will be purchased from an idle mill in New York. The Shuford plant now has 7500 spindles and 200 looms.

H. Kaulfers, representing Valentine Bliss of Scranton, Pa., has announced that his principal will establish a branch silk-throwing mill at Roanoke, Va., investing about \$10,000. It is said the plant will employ about 150 persons. Valentine Bliss operates three mills in Pennsylvania, the Scranton plant having 58,600 spindles.

Messrs. W. I. Wellman and T. W. Pratt, presidents of banks at Huntsville, Ala., have been in New York during the past week negotiating with a party of capitalists for the erection of a large cotton factory at Huntsville. It was reported some weeks ago that New York parties contemplated locating a \$400,000 mill at Huntsville.

Berkley Knitting Mills, Berkley, Va., has completed improvements that have been in progress. The main building has been doubled, making it 90x120 feet in size. It is two stories high. Considerable new machinery was also put in position. This mill manufactures high-grade ladies' underwear finished with silks. Several of the twenty-five assortments produced are lisle thread.

Pelzer (S. C.) Manufacturing Co. has ordered 1100 Northrop looms, made by the Draper Company of Hopedale, Mass., to replace old looms in its plant. Contracts for the machinery have been placed, and the new equipment will be put in position as rapidly as received. The company will also reorganize its carding department. Its plant operates a total of 120,000 ring spindles and 3400 looms.

C. B. Somerville and associates were mentioned recently as having purchased Armstrong Knitting Mills at Charlottesville, Va., as to operate same and introduce the manufacture of overalls in connection with the mill. They have organized H. C. Marchant Manufacturing Co. to carry out their plans, H. C. Marchant being president; R. P. Valentine, vice-president; C. B. Somerville, secretary, and W. O. Watson, treasurer. This company will knit men's, women's and children's ribbed underwear and manufacture overalls, adding 100 sewing machines for this purpose.

Cottonseed-Oil Notes.

A stock company is being organized at Ravenna, Texas, for the purpose of erecting a cottonseed-oil mill. It will be a three-press mill, and will cost about \$35,000.

It is stated that the Southern Oil Co. has purchased five acres of land in Enterprise, Ala., on which it will erect a modern cotton-oil mill with all the latest improvements in machinery, etc. The plant will cost, it is stated, \$100,000.

The cottonseed-oil mill at Fort Valley, Ga., commenced making oil on the 19th inst. The mill just completed will be running at its full capacity during the next six weeks.

An application for an amendment to the charter of the Continental Oil Co. at Memphis was filed last week. The object of the amendment is to increase the capital stock from \$50,000 to \$250,000.

Hereafter, on Tuesdays, Thursdays and Saturdays, quotations on cottonseed products will be posted at the Merchants' and Maritime Exchange in New Orleans. The posting of these quotations was only recently agreed upon, and is being done for the benefit of export merchants and dealers who are members of the exchange. The quotations will be prepared by a special committee, which committee will be changed monthly. The present committee in charge consists of P. Vallon, chairman; A. W. Nicholas and E. J. Lieken. The following were current on the 17th inst.: Prime cake, \$25.37½ per long ton ship's side; off cake, \$23 to \$24 per long ton ship's side, according to quality; prime meal, \$25.50 per long ton ship's side; off meal, \$23 to \$25 per long ton ship's side, according to quality; prime crude oil, 34 cents per gallon loose f. o. b. mill; off crude oil, 28 to 32 cents per gallon loose f. o. b. mill, according to quality; prime refined oil, 40 cents per gallon in barrels ship's side; off refined oil, 38 cents per gallon in barrels ship's side; soap stock, \$1.10 per 100 pounds, basis 50 per cent. fatty acid; linters—A, 3½ cents per pound f. o. b. mill flat; B, 3 cents per pound f. o. b. mill flat; C, 2½ cents per pound f. o. b. mill flat; low linters, 1½ to 2 cents per pound f. o. b. mill flat, according to quality.

A Country of Riches.

Judge Joseph Tillman, the pioneer in the later development of sugar-cane culture and syrup-making in this section, is doing yeoman service for Southern Georgia, not only in that particular, but by attracting the attention of people of other States to what can be done by farmers with small capital. The old idea that a white man could not do farm work in Southern Georgia has always been known to be erroneous by those who live in the section, but many persons living elsewhere somehow got it into their heads that the further south one went the lower and poorer the lands became; that the land sloped off, as it were, into the swamps. The fact is that from Bryan, Bulloch and Tattnall to the lowest Southern tier of counties the land is generally rolling, fertile and healthy. These facts have for years been demonstrated by the thrift and health of the people. The idea that only negroes can work on farms in Southern Georgia is based upon pure fiction. The fact is that two-thirds of the crops of the section are cultivated by white people, and this accounts for the prosperity and increasing wealth of the section. The cultivation of sugar-cane is not a new thing in Georgia, but until recent years it was only a side issue. It has now become, through the efforts of Judge Tillman more than any other man, a money crop in South Georgia. With diversified farming and stock-raising, sugar-cane will aid in making the pine lands of Georgia relatively as rich as the gold mines of the far West. Savannah News.

The acreage in sugar-cane in Georgia is ten times what it was this time last year, and Capt. D. G. Purse, who is taking an active interest in cane culture, believes that nearly all the cane is being saved for seed, so that the acreage will be still further increased.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,
Baltimore, Md., January 21.

The week under review has shown a liberal volume of trade in most departments of the lumber industry, and dealers and manufacturers have their attention centered strictly on the business of the new year. Receipts of lumber last week were moderate in volume, on account of the severe weather in the bay. The supply, however, is about ample for the demand, although in some cases stocks are not well assorted. The North Carolina pine trade at the opening of the new year shows many features of encouragement, and the outlook seems sure for a good winter and spring trade. Values continue firm, and stocks are in no case excessive. The outlook for cypress is good, and prices very steady. White pine, although showing a moderate volume of trade, continues to rule firm for all desirable grades. Poplar is in good request, and prices all along the line are firm and hardening. There is a good inquiry for all hardwoods, and out-of-town dealers are in the market for some good lots. At all milling points orders are plentiful, while scarcity of cars and severe weather at times interferes with the movement. The foreign situation in hardwoods shows little improvement, while buyers and sellers on the other side are still far apart in their views.

Norfolk.

[From our own Correspondent.]
Norfolk, Va., January 19.

The activity in most branches of the lumber industry in this section is of such a character that it is safe to predict a continuance of the very satisfactory trade of last year. At the moment the demand is most pronounced, especially in North Carolina pine, manufacturers having orders which extend into late March, and business in every avenue of the industry is of a substantial character. Car and cargo lots are being shipped more readily than last month, and the operations, both by rail and water, are of greater volume than for some time past. Planing mills have all the orders they can handle, as the demand for dressed lumber is active, with prices firm and hardening. The inquiry for box grades is unusual, the demand being far in excess of the supply, while values are firm and tending higher. The foreign export trade is showing up in better form, and numerous inquiries are at hand which later on will no doubt develop a considerable volume of trade. At present several shipments of North Carolina pine are booked for late January or early February. Among the numerous wood-working concerns here there is quite a brisk trade in progress, and many are compelled to work overtime on account of a pressure of orders. The domestic demand for lumber for building purposes in this city and at suburban points continues unabated, and a large quantity of material is daily going into consumption. Freight rates still continue to rule very steady, and late charters are schooner Rebecca Shepard, 390 tons, Norfolk to New York with lumber at \$3, and schooner W. H. Bailey, Norfolk to New York at same figure.

Charleston.

[From our own Correspondent.]
Charleston, S. C., January 19.
So far during the present year the volume of business in all departments of the

lumber industry of this section seems to be fully up to that of the last half of 1902. The demand for lumber and other wood products is very steady, and from all the usual sources indications point to considerable trade during the winter and spring months. Reports from interior milling sections throughout the State are all very satisfactory, and the various companies operating report the business of the past year as unusually good. At nearby points there is considerable activity, and at Georgetown mills are all actively engaged on orders. Prices for both yellow pine and cypress lumber are firm and hardening, and with no sign of weakness in any grade or dimension. During the past week the following shipments were reported: Schooner Georgetown Lawrence for Boston with 240,000 feet of lumber; schooner Humarock for Bridgeport, Conn., with 293,000 feet, and bark Lillian for Elizabethport, N. J., with 336,000 feet. The steamship Algonquin cleared for New York with 15,491 feet of lumber among her cargo. The exports of lumber from this port from September 1, 1902, to January 16, 1903, aggregated 29,283,007 feet, of which 28,204,507 feet were coastwise and 1,078,500 feet foreign. The shipments for the same period last season amounted to 21,374,139 feet.

Brunswick.

[From our own Correspondent.]
Brunswick, Ga., January 19.

The past week was one of unusual dullness in the outward movement of lumber cargoes, not due, however, to lack of orders, but to a scarcity of tonnage, caused by contrary winds keeping schooners far out upon the high seas. The movement from the interior to the seaboard continues strong, and reports from some quarters state that the demand has been much stronger for January so far, compared to January, 1902. Prices are firm, with advances noticeable in special and "rush" stock orders. Local demand in this section is larger than ever, many mills being able to dispose of their cut right at the mills. Local demand at Brunswick is greater than ever in the port's history, supplying a large number of new buildings. Reports from Fernandina and Darien show active shipments and a large demand. Freights from South Atlantic ports are now quoted on a basis from Brunswick to New York with lumber at \$6, and railroad cross-ties at 18 cents. Charters recently reported from this section are, from Brunswick, schooner Florence Leland, 281 tons, with lumber to New York at \$6; schooner Governor Ames, 1597 tons, ties to New York on private terms; schooner Sir Hugh Kelly, 690 tons, lumber to New York at \$6.25, and railroad ties at 20 cents; schooner Hattie Dunn, 365 tons, dry cypress to Philadelphia on private terms. From Fernandina, schooner John Rose, 595 tons, lumber to Philadelphia at \$5.75; schooner Mary A. Hall, 341 tons, lumber to Philadelphia at \$6; schooner Perry Setzer, 1268 tons, railroad ties to New York at 18 cents. Only two foreign charters reported—schooner Jas. Slater, 267 tons, from Brunswick to Kingston, Jamaica, with lumber at \$6.50, and British steamer Athenianna, 1469 tons, from Sapelo to Holland and United Kingdom with timber on private terms.

Mobile.

[From our own Correspondent.]
Mobile, Ala., January 19.

The timber market continues rather quiet at the moment, but later on it is expected that considerable activity will prevail. A number of charters are reported of vessels to load timber, and mills at the moment all along the coast have commenced in earnest after a shut-down

during the holidays. Sawn timber when placed on the market will bring 17½ to 18 cents per cubic foot, 40-foot basis. Hewn timber is scarce, with quotations resting at 16½ to 17 cents per cubic foot. Hewn oak is in good demand at 18 to 20 cents, and hewn poplar at 14 to 15 cents per cubic foot. The inquiry for lumber is urgent, and prices for various grades are firm. Mills are all well supplied with orders, and the demand from South Africa, South America and Cuba continues to show up freely. The quotations at Moss Point for lumber are as follows: Cuban schedules, \$12 to \$13; South America, \$13 to \$14; pine, \$11 up to \$25 to \$30; sawn timber, 40-foot basis, 18 cents, and hewn timber, 17½ cents. Among the clearances last week were the steamer Spennymoor with 113,000 cubic feet of sawn timber and 20,000 feet of lumber for Greenock, and 27,030 cubic feet of hewn timber and 153,200 feet of lumber for Rotterdam; the steamer Vileland for Lisbon with 130,823 cubic feet of sawn timber and 7500 feet of lumber. The bark Hiawatha cleared for Buenos Ayres, A. R., with 1,193,202 feet of lumber, and schooner A. M. Gibson for Matanzas, Cuba, with 274,968 feet of lumber, and shipments by other vessels to Cuba and Mexican ports amounting to 560,000 feet. Reports from Pensacola are encouraging, and in both lumber and timber there is a good volume of business. Recent charters show freights on both timber and lumber as very steady. The following charters were reported last week: British steamer Glencoe, 1648 tons, from Mobile to the United Kingdom or Continent with timber at 85/; February; British steamer Chatton, 2321 tons, from the Gulf to the United Kingdom or Continent at private terms, and Dutch steamer Heelsum, 874 tons, from Pensacola to Gijon with timber at 88/9; steamer Alpha, 1019 tons, from Pensacola to the Continent or United Kingdom with timber at 82/6, one port, 85/ if two ports; Norwegian bark Senia, 1309 tons, from Pensacola to South Africa with timber at 115/, and Norwegian ship Oddera, 1360 tons, from Pensacola to east coast England with timber at 83/9.

Memphis.

[From our own Correspondent.]
Memphis, Tenn., January 19.

Although this is usually a quiet time in hardwood lumber circles in this city, the demand continues very active, with the movement limited only by the scarcity of dry stocks available for immediate shipment, which continues the one bad feature of the entire situation. The demand is not limited to any one section or to any single branch of the trade. The tendency of prices continues upward, though there are no open advances to record. It may be stated, however, that some of the trade here are refusing to sell quartered white oak, inch, inch and a-half and two-inch stock, at less than \$55 to \$62.50 per thousand, according to thickness. Other woods are proportionately high. The most active demand continues from the domestic buyers, though there is some improved call for lumber for export. H. N. Saxton, of H. N. Saxton & Co. of Knoxville, Tenn., has just returned from a European tour, and he came straight to this center for the purpose of filling the orders he received. The buyer for the export department of the Paepcke-Leicht Lumber Co. of Chicago was also here recently, and was actively in the market for stock. The country mills are operating in a desultory sort of manner. Many of them are short of logs, with little prospect of increasing their holdings for some time to come; some are without the proper

amount of labor; wet weather handicaps some of them, and there are numerous drawbacks which tend to restrict the lumber output in this section. The car situation is again far from satisfactory. Building operations here are particularly restricted on this account. Steps are now being taken to have all the streets of this city paved. This work cannot be accomplished until next summer, however, and there is likely to be a lull in building operations, and consequently dullness in building woods, until the weather improves considerably.

Nashville.

[From our own Correspondent.]
Nashville, Tenn., January 19.

In reviewing the business of 1902 all local hardwood dealers here agree that the business of the year was of a satisfactory volume, with better prices and a wider margin of profit than for many years past. The new year has opened up with a fairly active demand, and dealers have their order files well supplied. Dry stocks in the hands of dealers are unusually low, while prices for oak, poplar and chestnut were never higher than at present. Several companies engaged here will soon increase their supply of oak, chestnut and poplar by the acquisition of valuable timber tracts, and it is expected that stocks during the spring months will be ample for the demand. Quartered white oak shows more strength than any other wood on the market, and quartered red oak is in fair demand and very firm, while plain white oak is in good request. There is a good demand for poplar, and box boards are sure sale.

Southern Lumber Manufacturers.

At the annual convention this week at New Orleans of the Southern Lumber Manufacturers' Association Secretary George K. Smith reported that 335 mills in the organization in Missouri, Arkansas, Texas, Louisiana, Mississippi and Alabama, representing between 80 and 90 per cent. of the yellow-pine output of the country, produced 4,315,000,000 feet of lumber in 1902, an increase over 1901 of 320,000,000 feet. The stock on hand at the mills on January 1, 1903, was 948,000,000 feet, an increase of 156,000,000 feet. The increase is accounted for by new mills accumulating sufficient stock to have an average amount on hand, and by the inability of all mills to secure cars enough for shipment of stock sold.

Lumber Notes.

The Wolf River Company of Mississippi City, Miss., has been chartered, with a capital stock of \$25,000, for conducting a lumber, turpentine and transportation business.

The Nicolette Lumber Co.'s store, post-office, express office at Nicolette, W. Va., were destroyed by fire on the 16th inst. The loss is estimated at \$25,000, with \$10,000 insurance.

The Fidel Ganahl Lumber Co. of St. Louis, Mo., has been chartered, with a capital stock of \$50,000. The incorporators are Fidel Ganahl, John, George and Nicholas Le Brun.

The West Lumber Co. of Westville, Texas, has been chartered, with a capital stock of \$100,000. The incorporators are J. M. West and W. W. West of Westville, and L. Davidson of Houston.

The Helman Lumber Co. of Memphis, Tenn., has been incorporated, with a capital stock of \$20,000. The incorporators are D. L. Helman, G. B. Hein, E. E. Williams, W. L. Dodge and E. H. Collender.

The lumber plant, buildings, machinery and stock of lumber of W. P. Ingram & Co. of Taylorsville, N. C., were destroyed by fire on the 13th inst. The loss is esti-

mated at \$4000 to \$5000, with no insurance.

The sash factory of T. V. Risheill & Son of Alexandria, Va., was destroyed by fire last week, entailing a loss of from \$6000 to \$8000, with insurance only \$1400. The plant was one of Alexandria's oldest enterprises.

The large saw-mill and crate and box factory of E. L. Kelley & Son, located on Newnans Lake, one mile from Rochelle, Fla., was destroyed by fire on the 16th inst. It is estimated that the loss will reach \$33,000, with partial insurance.

The Vestal Lumber Manufacturing Co. of Knoxville, Tenn., has purchased 7714 acres of timber lands in Blount and Sevier counties, and is erecting a saw and planing mill at South Knoxville. The company will also operate four circular mills.

Five dry-kilns of the Eureka Lumber Co. at Washington, N. C., and over 250,000 feet of lumber were destroyed by fire last week. Three of the dry-kilns were bricked in and costly. The loss is estimated at \$15,000, with but light insurance.

The Florida Crosstie Co. of Jacksonville, Fla., has been incorporated, with a capital stock of \$500,000. The incorporators are B. F. Watkins, W. P. Coachman, W. W. Frazier and John G. Christopher. The company proposes to manufacture cross-ties for railroads, etc.

The shipments of lumber last week from the port of Mobile aggregated 2,059,302 feet, and for the season 28,608,500 feet, against 34,480,235 feet a year ago. The shipments of sawn timber for the week amounted to 271,153 cubic feet, and of hewn timber 20,190 cubic feet.

The Beekman Lumber Co. of Kansas City has filed articles and a certificate appointing George H. Beekman of White, Ashley county, the Arkansas agent of the concern. He succeeds Charles H. Dickinson of Paragould, Ark. The capital stock of the concern is \$10,000.

The Louisiana & Arkansas Land & Lumber Co. has been organized at Stamps, Ark., with a capital stock of \$1,000,000, for manufacturing shingles, erection of saw and lumber mills, etc. The officers of the company are William Buchanan, president; Henry Moore, vice-president, and J. A. Buchanan, secretary.

W. F. Fullington, manager of the Queen City Lumber Co. of Gadsden, Ala., it is said has purchased a 200-horse-power band-saw mill, which he will move from Lenoir City, Tenn. All of the machinery will be moved to Gadsden, and work on the new plant will begin at once. The capacity of the mill will be 60,000 feet of lumber per day.

The Southern Timber & Naval Stores Co. of Jacksonville, Fla., has been chartered, with a capital of \$400,000, with the right to increase to \$1,000,000. The corporation will buy, sell and lease, handle and deal in timber lands and naval stores, and operate mills, etc. The incorporators are Pembroke Jones, Neill G. Wade, Perry M. Colson and Donald W. McArthur.

The annual meeting of the stockholders of the Cheraw Door & Sash Co. of Cheraw, S. C., was held on the 15th inst. The annual report shows that a profit of 22½ per cent. has been cleared and a dividend of 10 per cent. declared, the balance of profit being set aside for supplies. The directors re-elected for the ensuing year were Messrs. Wm. Godfrey, D. S. Mathereson and W. T. Cobb.

The lumber industry at Petersburg, Va., has shown a gradual increase in the volume of business in recent years, and is now a lumber market of considerable importance. In three years Col. E. M. Field,

a city inspector, has inspected 91,000,000 feet of lumber. During 1902 he inspected 31,000,000 feet, most of which was shipped to Baltimore, Philadelphia, New York and other Northern markets. The city of Petersburg consumes about 15,000,000 feet of lumber each year.

It is stated that the Consolidated Naval Stores Co., with headquarters in Jacksonville, Fla., has purchased the entire holdings in the State of the Florida Land & Lumber Co., consisting of 223,000 acres of choice virgin pine timber and turpentine lands, 202,000 acres of which are in a solid body in Volusia county. It was known as the Chapman tract, and covers an area of about forty miles in extent, running from New Smyrna, on the east coast, across the country to the St. John's river.

The Midlothian Lumber Co., the Midlothian Grain & Elevator Co. and the Midlothian Milling & Elevator Co. of Midlothian, Texas, have consolidated, with a paid-up capital of \$25,000. The charter of the Midlothian Lumber Co. will be changed to conform to the new firm name, the Midlothian Lumber, Elevator & Milling Co. The officers of the company are B. F. Hawkins, president; H. F. Holland, vice-president; J. E. Sewell, treasurer; T. M. Dus, secretary. A dividend of 15 per cent. has been declared.

The following clearances of lumber cargoes were reported last week at Jacksonville, Fla.: The British schooner Brothers for Nassau, B. W. I., with 70,146 feet of lumber, 12,000 shingles and a lot of sash; schooner W. H. Skinner for New York with 246,000 feet of lumber; schooner Brookly for Georgetown, Demerara, with 237,754 feet of lumber; steamer Westover for Philadelphia with 300,000 feet, and steamer Carib for New York with 300,000 feet of lumber, 2500 cross-ties, 1800 bundles of shingles, with other cargo.

It is stated that S. J. Seneca has leased for a term of years a valuable property at Havre de Grace, Md., on which a large box-manufacturing plant will be erected. The company conducting this enterprise is the Delmar Lumber Manufacturing Co., with a capital of \$100,000. The officers of the company are T. A. Veasey, president; T. F. Shockley, secretary; J. P. Morris, treasurer; H. L. Arthur, manager; superintendents, J. S. Lowe and W. A. Wells. The company has bought the F. G. Elliott factory at Delmar, Del., which will be consolidated with the new establishment of Havre de Grace.

Geology of Louisiana.

The experiment station of the Louisiana State University and Agricultural and Mechanical College has published a valuable report on the geology of Louisiana, containing special papers by Gilbert D. Harris of Cornell University, geologist in charge, and Messrs. J. Pacheco and A. C. Veatch. The special reports bear upon the tertiary geology of the Mississippi embayment, the salines of North Louisiana, the geology and geography of the Sabine river, notes on the geology along the Ouachita, improvements in Louisiana, cartography, the subterranean waters of Louisiana, the tides in the Rigolets and oil in Louisiana.

Orange Progressive League.

Mr. J. E. Hockey, secretary of the Progressive League of Orange, Texas, writes to the Manufacturers' Record that arrangements are being made to obtain a charter for the league recently organized. Its other officers are H. H. Farwell, president; Charles M. L. Hein, vice-president, and George W. Bancroft, treasurer.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, Md., January 21.

The phosphate market is in better tone, in sympathy with other fertilizer ingredients, but the offerings are moderate, with prices about steady. From points of production in the Southern phosphate belt reports continue very encouraging, and the outlook for the present year indicates a fair volume of trade. The situation in Florida is at the moment showing more activity, and in mining sections the development is more vigorous. In Alachua and Levy counties miners are busy, and many new deposits are still unopened, and as old ones are mined out the supply is found at hand among new plants recently erected. The situation in pebble sections is developing considerable business, and prominent companies have all the orders they want at present. The market in South Carolina is in better shape, and both the domestic and foreign demand is improving. At Mt. Pleasant, in the Tennessee section, the prospects for a good trade during the present year are very encouraging. The market at present is firm for both domestic and export rock. It is stated that there are at present not over 25,000 tons of rock above ground in the Mt. Pleasant field. Scarcity of cars and bad weather restrict operations, and it is expected with the return of spring the situation will be considerably relieved. According to statistics recently given out by C. B. Compton, traffic manager of the Louisville & Nashville Railroad at Louisville, the year just ended has been the most prosperous one in the Mt. Pleasant phosphate fields since 1899. His estimates show that over 400,000 tons of rock were shipped from there in the year 1902. The traffic from those mines in 1900 amounted to 347,015 tons, and in 1901 to 359,631 tons. Thus it is seen that last year's shipments ran about 50,000 tons over the two years previous.

Fertilizer Ingredients.

The market for ammoniates has shown much more strength during the past week, owing to large purchases for prompt nearby shipments by Southern buyers. Stocks for January and February shipment are cleared up, and prices have advanced in consequence.

The following table represents the prices current at this date:

Sulphate of ammonia (gas)...	\$3 07½ @ 3 10
Nitrate of soda, spot Balto...	1 97½ @ 2 02½
Blood	2 67½ @ —
Azotine (beef)	2 52½ @ 2 55
Azotine (pork)	2 52½ @ 2 55
Tankage (concentrated)	2 47½ @ —
Tankage (9 and 20)	2 52½ & 10 @ 2 55 & 10
Tankage (7 and 30)	20 50 @ 21 00
Fish (dry)	32 50 @ 35 00

Phosphate and Fertilizer Notes.

The steamship S. T. Morgan cleared last week from Charleston, S. C., for Norfolk with 526 tons of phosphate rock, and for Baltimore with 1500 tons.

The British steamer Heschem, 1046 tons, was chartered last week to load phosphate rock at Port Inglis, Fla., for Helsingborg at 14/6, January 31.

The report on sales of fertilizer tax tags for 1902 shows that the fertilizer sales in North Carolina aggregated 330,000 tons, or 9000 tons less than in 1901.

The Evans Drug & Chemical Co. of St. Louis has been chartered, with a capital of \$25,000, by John J. Evans, Alexander L. Shultz and Charles W. McFarland.

The Domeloa Chemical Co. of Baltimore, Md., was chartered in Delaware this week to manufacture and sell patent medicines. The capital stock of the company is placed at \$100,000.

It is estimated that from 60,000 to 80,000 tons of fertilizers will be shipped from

Nashville, Tenn., during the next six weeks, providing the railroads can handle the consignments in that time. Most of the fertilizer will go to planters in the cotton belt, and will cost about \$20 per ton, according to grade.

It is stated that several Virginia capitalists are co-operating with leading business men at Newport News, Va., with a view to establishing larger acid works and a fertilizer plant in that city. The purpose of the syndicate is to mine pyrites first in Louisa county. Hydrochloric acid principally will be made.

It is stated that two large corporations, one in the North and the other in the South, have recently sought information from the Louisville Commercial Club of Louisville, Ky., regarding pigment clay or ochre, which are supposed to exist in various sections of Kentucky and near Louisville. If they can secure the material in sufficient quantities it is their intention to establish plants for the manufacture of colors and paints on a large scale.

According to figures furnished by Traffic Manager Compton of the Louisville & Nashville, the year 1902 was a record-breaker in Maury county (Tennessee) phosphate shipments. The total shipment for the first nine months of the year just ended amounted to a total of 621,225,982 pounds, or 310,612 tons. This is an average shipment per month of 34,512 tons. Taking this average, then, for the entire year, the total shipment for the whole twelve months would be 414,150 tons.

The annual meeting of the stockholders of the Savannah-Florida Phosphate Co. was held last week in Savannah. The affairs of the company were shown to be in a prosperous condition. The company has built an extensive and well-equipped plant at Hernando, Fla., and has shipped over 5000 tons of high-grade rock since July 1, 1902. The company has earned a handsome dividend on its stock, besides paying the interest on its bonds. The following officers were re-elected for another year: Horace Rivers, president; C. G. Memminger, vice-president and general manager; G. A. Mercer, secretary and treasurer.

It is stated that reports which have been current recently of the exhaustion of phosphate rock in Alachua and Levy counties, Florida, have been greatly exaggerated. Prominent miners are of the opinion that as much rock is being mined in those counties now as there has been at any time during the past six years. Some of the deposits, it is true, have been mined out, but there are many new ones and a number of plants which have just commenced to work on new deposits. The Camp Phosphate Co., the Cummer Company and other prominent companies operating on an extensive scale have excellent deposits yet to open.

Attracting to Valdosta.

In response to a petition from the Board of Trade, the city council of Valdosta, Ga., has resolved to furnish light and water free for five years, and to relieve from municipal taxation for the same period new enterprises coming to that city. A committee of the council was appointed to secure options on land to be given by the city for manufacturing sites. The Board of Trade has been asked for information regarding such bonuses and exemptions, and it is understood that two big factories will come to Valdosta on the strength of the city council's action.

On January 1 the steel, earthen and wooden storage capacity in the Beaumont oil region was 13,253,000 barrels. There were 9,470,000 barrels of oil in storage.

MECHANICAL.

Merrill-Brett Drop Hammer.

E. W. Merrill, Jr., Brooklyn, N. Y., is introducing in the United States the Brett

use of electric drive or of water-power, live steam is not available for the drop hammer, compressed air can be used in the same manner as steam.

While operating no power is lost in changing direction of motion, as the piston

which control the throttle and automatic trip valves.

One of the levers moves between two quadrants containing a series of notches, which hold the lever in any desired position. If the lever is placed in the highest, lowest or any intermediate notch the hammer will trip automatically at a corresponding high, low or intermediate fall.

This change of distance in automatic fall can be made in a few seconds while the hammer is in operation or at rest.

The drop is worked automatically by releasing the latch with the aid of the treadle, the same as on a board lift drop, a repeated number of blows being given until the foot is removed.

The variable light and heavy blows are obtained by operating the throttle lever, as on a steam hammer.

The lifters may be placed upon the floor above the drop hammer, on the floor behind the base, or at right angles to the slides and above the hammer.

Figs. 2, 3 and 4 show the principal parts of the lifter.

The shaft, levers (or lifting arms) and piston, as shown, are fastened together to form practically one solid piece. This is the only working part, and is free to rotate about three-quarters revolution in the cylinder.

The cylinder is shown with one end cover removed, and it will be seen there is a division piece which is securely bolted to the side.

The bearings in which the shaft turns are long, to give ample wearing surface, and are made steam-tight by ordinary stuffing-boxes.

The packing strips are placed in grooves in three sides of the piston blade and in the division piece, and are pressed outward by springs to keep the piston steam-tight.

The pulley is strongly built of wrought steel, not fastened to the shaft, and turns freely on the shaft between the two lifting arms. The pulley is thus free from strains of lifting, merely serving as an idler.

Haulage Systems With Wire Rops.

The adaptations of wire rope to aerial, surface and underground haulage are important factors in many industrial operations, facilitating the work involved and rendering practical enterprises which otherwise could be carried on only at a great expense, if at all.

The conveyance of materials by means of overhead cables or wire-rope tramways has not been adopted as extensively in the South as in the Western mining sections, but seems to be gaining a permanent foothold. As the economy and efficiency of this method of transportation under certain conditions are better understood its merits are beginning to be

look for the introduction of cable hoist conveyors in the South promises an increasing demand for such equipments. These conveyors are designed for handling heavy loads over comparatively short distances, and are especially adapted to quarry work, dam construction and similar contracts.

The Trenton Iron Co. of Trenton, N. J., has for many years made a specialty of such appliances. At Ansted, W. Va., the company built for the Gauley Mountain Coal Co. a tail-rope haulage 3750 feet long, with capacity of 200 tons of coal per hour. Trains of fifty cars, holding each two tons and weighing (loaded) three tons, are hauled at a speed of 880 feet per minute, heaviest grade against loads being about 2 per cent. This line is operated by a 24x48-inch engine of 380 horse-power.

In wire tramways the company more especially calls attention to the Bleichert system. One built at Saltville, Va., for the Mathieson Alkali Works is 14,930 feet long, with a fall of 273 feet, and conveys lime rock from quarry to kilns, capacity being twenty-five tons hourly. About sixteen horse-power operates it. The buckets are transferred to and from surface cars at the quarry. The structural work is timber, excepting that portion of the discharge terminal immediately over the kilns, which is of iron.

Referring to cable hoist conveyors, mention may be made of a line of the Laurent-Cherry patent system installed at Morgan Falls, Ga., for handling materials used in constructing a dam. The cables are of the Trenton patent locked-wire construction, two inches diameter, and the span between the supports is 1050 feet, the line being designed to handle loads of six and one-half tons. Head tower is ninety-five feet high. Tail tower, on a higher bank, is fifteen feet high.

The Hall patent hoist conveyor is especially adapted to excavating in soft earth, sand and gravel. James R. Hall of Atlanta invented this system, and first used it when building the Suwanee canal. The Trenton Iron Co. has constructed a number of them, and obtained the best results. Well-known engineers speak highly of the merits of the Hall system.

Special booklets relative to the Trenton Iron Co.'s products and installations are sent to any present or prospective buyer in this field desirous of obtaining further information.

A New Governor.

The new governor illustrated herewith, introduced by the Ball Engine Co., Erie, Pa., and adopted as the company's standard, is the result of more than a year's testing and experimenting.

It is claimed that this governor will only race when badly overregulated, and then

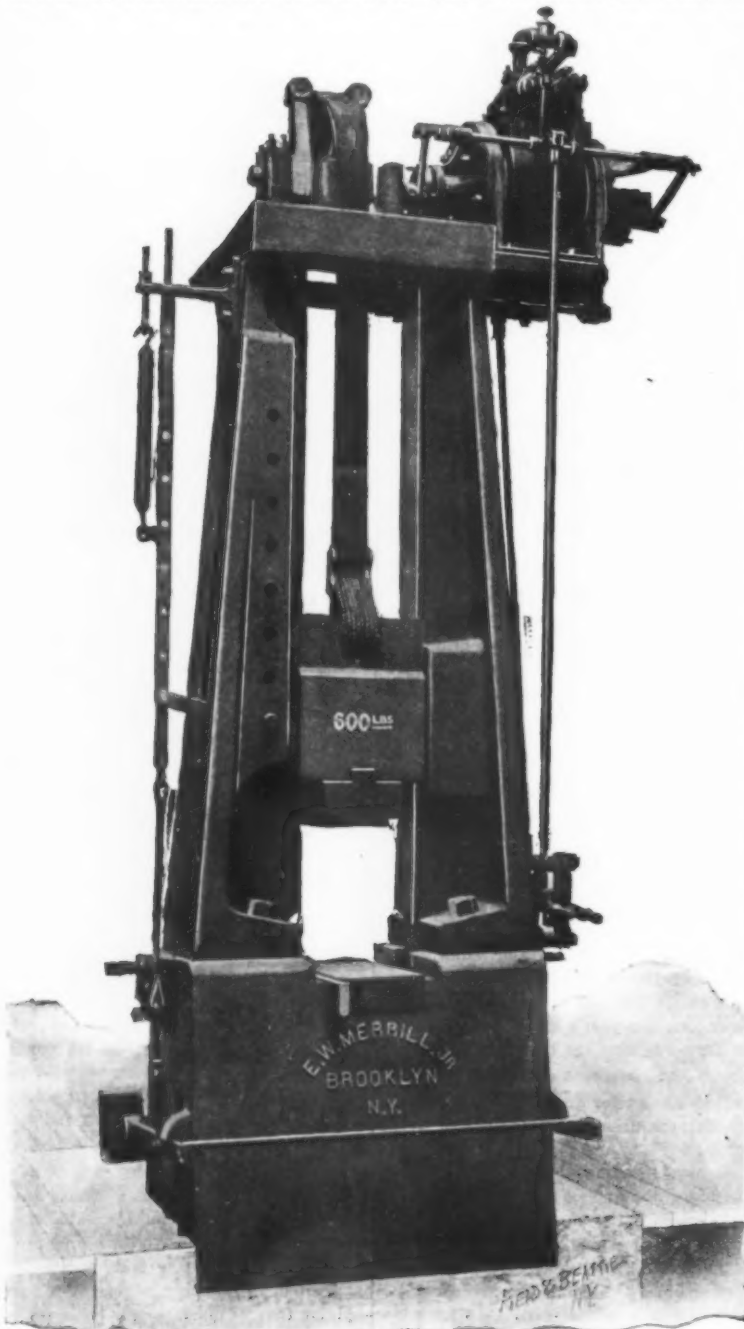


FIG. 1—AUTOMATIC STEAM OR COMPRESSED-AIR DROP HAMMER.

patent steam and compressed-air semi-rotary drop-hammer lifters.

These lifters can be operated in two ways—either by delivering one or a series of equal blows automatically, or by giving variable light and heavy blows.

The blows are of an elastic nature, well suited for stamping or forging, as the return of the hammer is instantaneous.

The hammer can be made to operate as fast as is consistent with the successful manipulation of the stock in the dies. The rate of fifty to seventy strokes per minute may ordinarily be obtained, while at a very low fall as high as 100 blows per minute is possible.

The weight of a hammer which may be successfully lifted is almost unlimited, as, if necessary, lifters may be made to operate hammers weighing several tons, and are said to be as easily worked as the smaller sizes.

The only connection necessary to the drop hammer is a pipe to convey the steam or compressed air, consequently it can be placed in any convenient location of the factory, irrespective of line shafting.

Whenever, by reason of the exclusive

shaft only partly rotates in its bearings when returning to the starting-point.

These lifters are successfully used in connection with stamping hammers, having a large striking surface, as any unevenness of striking or looseness in the guides does not affect the lifter or its connections.

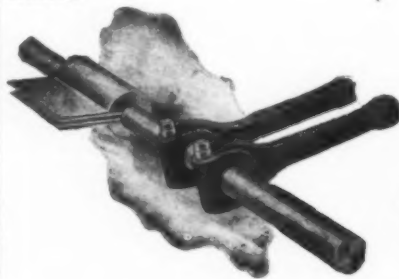
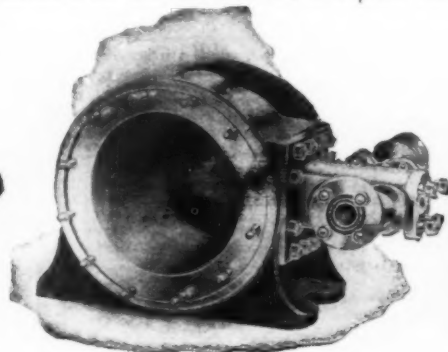


FIG. 2.

Fig. 1 shows a self-contained automatic drop hammer.

The two levers fastened to the right-hand side of the drop hammer are each, respectively, connected to a light rod,

FIG. 3.
PRINCIPAL PARTS OF LIFTER.

appreciated and the fact realized that it is something more than a makeshift to be adopted only where a surface line is impracticable.

It may be mentioned also that the out-

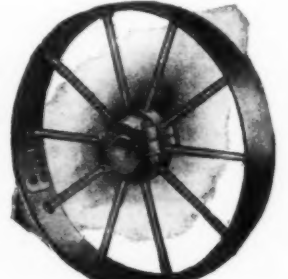


FIG. 4.

only gently, without slamming or pounding, and that with any care it will not stick on the suspension pin. The governor is practically in gravity balance, and is, in consequence, steady and reliable.

It is simple, and has wide range of adjustment. The adjustments, it is claimed, may be made by anyone—not necessarily an engineer or a man skilled in such handling. This and its range of speed adjustments are considered the most remarkable points about it. It is stated that the speed may be changed from the lowest to at least 35 per cent. higher without removing or adding anything to the governor, close regulation being obtained throughout the range.

The adjustments for speed and regulation are exceedingly simple. The spring is screwed up until the proper speed is obtained; then, if a tendency to race becomes apparent, the link pin is moved, which bolts to the eccentric arm, farther away

apparent in the steady growing demand from all parts of the United States and abroad.

Quantities are exported yearly to Australia, Denmark, England, Canada, South Africa, Germany, West Indies, South America and East Indies.

An American Industry Abroad.

The directors of the British Westinghouse Electric & Manufacturing Co., Ltd., London, England, have recently issued their third annual report, showing a material increase in growth of the company's business and indicating an industrial reawakening in England. Heretofore orders have been executed at Pittsburgh, but now that the company's works

at the company's works, will require additional funds for material, labor and working capital generally. The directors, therefore, propose to create an additional 200,000 6 per cent. preference shares of, approximately, \$25 each, one-half of which is to be issued immediately, believing that the use of such additional capital will result in a higher percentage of profits to the company.

Centrifugal Crushing Rolls.

The 36-inch centrifugal rolls here illustrated are the largest made by the Sturtevant Mill Co. The tires are four and

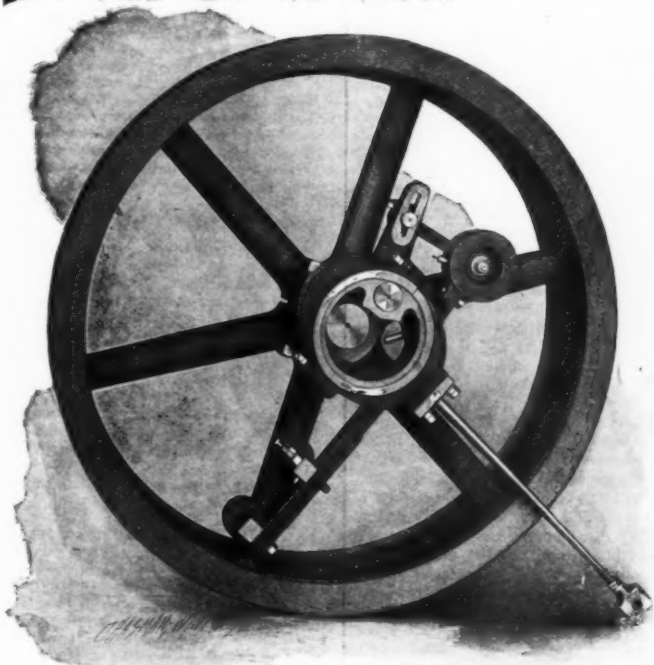
exposed to wear in the same time. The smallest rolls, however, must not be used as coarse crushers.

Large centrifugal rolls can run even on large rock at high speeds, and are well suited to either coarse or finishing work.

The Sturtevant Mill Co., Boston, Mass., is the manufacturer of these centrifugal crushing rolls.

TRADE NOTES.

Pacific Coast Representative.—M. J. Burke will represent the Eureka Fire Hose Co., New York, in the sale of its standard brands of fire hose to fire departments in California, Oregon, Washington and adjacent territory.



A NEW GOVERNOR.

from the eccentric. If, on the other hand, the governor is not close enough, the pin is moved toward the eccentric. There are rows of holes provided in the arm of the eccentric for this purpose. These adjustments are the only ones necessary to produce fine adjustment at any speed within the range of the engine, and the adjustment when made is permanent.

The new governor is said to be a true inertia governor, with the inertia feature developed only so far as it has been found by experiments to be beneficial and with the centrifugal feature at its proper strength. The consequence of this, in connection with the absence of friction and the gravity balance, is to make the action of the governor very quick.

Eureka Garden Hose.

An accompanying illustration shows a length of the "Eureka" garden hose, which is perhaps the most popular of the brands made by the Eureka Fire Hose Co., 13 Barclay street, New York. It is



EUREKA GARDEN HOSE.

made to last, and has become very popular for horticultural purposes.

The "Trojan" and "Pioneer," as well as the "Eureka" garden brands, are mildew-proof, high grade, and furnished in three sizes, viz., one-half inch, three-quarters inch and one inch diameter.

The greatest care is taken by the Eureka Fire Hose Co. at every stage of manufacture to make its line of hose first-class, and the success of these efforts is

at Trafford Park, Manchester, England, are practically completed and about 3000 men employed, manufacturing operations have begun, and all orders will hereafter be executed there.

A construction department has been organized to carry out building and general construction work, thus enabling the company to undertake the complete installation of large railway, power and lighting plants. This department will be under the management of Mr. James C. Stewart of the well-known engineering firm of James C. Stewart & Co., whose record bricklaying performance in connection with the Manchester works caused so much discussion.

Many important contracts have been obtained by the British Westinghouse Company during the past year, including those with the Metropolitan District Railway Co., the Metropolitan Railway Co., the Clyde Valley Electrical Power Co., the London United Tramways Co., Ltd., the Bath Tramways Co., Ltd., Exeter

Corporation, Newcastle Corporation and the Swansea Corporation.

The erection and equipment of the works at Trafford Park have absorbed the bulk of the available capital of the company, comprising, approximately, \$8,750,000, of which \$5,000,000 are in 6 per cent. preference shares and \$3,750,000 in ordinary shares. The extensive business in hand, as well as the new business in prospect, all of which is to be executed

one-half inches thick, of high-carbon steel, and have sixteen tons pressure at ordinary speeds. They can be run fast or slow as required, and attain greatly-increased pressures when fast running brings in the rapidly-augmenting centrifugal forces. The shafts on these rolls are fixed. They turn easily with one belt. The bearings are dustproof, and the side adjustments simple and durable. Tires may be removed in a few minutes. To do this it is only necessary to turn in set-screws in the head periphery; these press back the tire-spring weights, and the tire is released, and may be slipped

Mr. Burke will make his headquarters at 573 Market street, San Francisco.

Graphite Mine for Sale.—W. N. Dorsey, Ellenboro, N. C., has a graphite mine and about thirty tons of graphite for sale.

Planters' Compress Co.—Planters' Compress Co. has removed its offices to the sixth floor of Board of Trade Building, 131 State street, Boston.

Allis-Chalmers Dividend.—Allis-Chalmers Company, Home Insurance Building, Chicago, has declared its regular quarterly dividend on preferred stock.

Burt Oil Filters.—An important shipment of oil filters and exhaust heads was recently

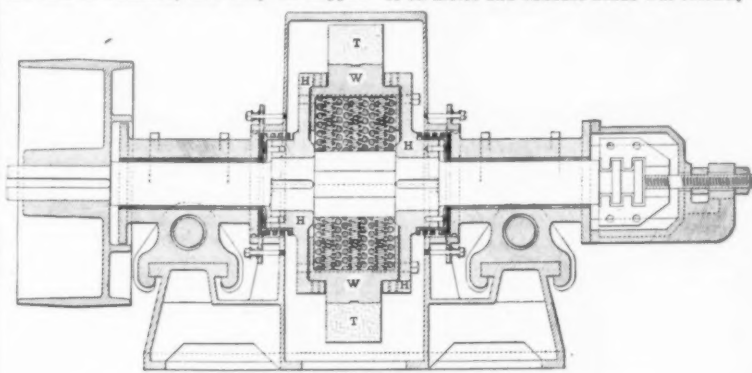


FIG. 2—CENTRIFUGAL CRUSHING ROLLS—SECTIONAL VIEW.

off easily. When tires are replaced the set-screws are taken out, and the tires at once secure themselves.

The maker says since rolls crush by the pressure of their revolving tire surfaces, it is plain that if the tire widths and pressures are the same, the output of all rolls will be in exact proportion to tire velocities, regardless of diameters. A small roll, therefore, may do as much as a large one if the tires can attain the same speed.

The wear of a small tire surface, even when running at the tire speeds of the largest rolls, is no greater than that of a large tire having the same velocity. In both cases the same amount of metal is

made by Burt Manufacturing Co., Akron, Ohio, to its agency at London. Other export orders went to Sweden, Japan and Argentine Republic.

The Peden Dinner.—On January 3 Peden Iron & Steel Co., Houston, Texas, tendered to its employees an annual dinner, which was in every way a success and a most enjoyable occasion. About twenty-four addresses were made during the course of the banquet on topics of interest to those present.

O. M. Pudor & Co.—This firm, of Houston, Texas, has for ten years been handling real-estate transfers, and furnish the best of references as to the reliable, trustworthy nature of the reports which they make on real estate from personal inspection. Buying or selling rice or fruit lands, farms, ranches,

timber and mineral lands in Texas and Mexico is the firm's especial work.

Clay and Shale Beds.—W. B. Johnson, Palestine, Texas, announces that he wants to secure \$50,000 to further develop a fine bed of clay and shale. It is said the output of plant for the year ahead has been sold.

Stirling Boilers in the South.—The Stirling Company of Chicago, offices in Pullman Building, finds it advisable to have better facilities for attending to Southern orders for its water-tube safety boilers. It has established for this purpose a branch office at Atlanta, Ga., in the Empire Building, with A. H. Whiteside as manager.

Slate Deposits Offered.—Several hundred acres of undeveloped slate deposits, advantageously located with reference to transportation facilities, are offered for sale by J. W. White, general industrial agent Seaboard Air Line Railway, Portsmouth, Va. The property is said to contain slate that is equal to the famous Bangor product.

Ancient Painting Machinery.—F. E. Hook of Hudson, Mich., the originator of the "Pneumatic Coating Machine," for painting and whitewashing, has succeeded to the painting-machine business of Bean-Chamberlin Manufacturing Co., also of Hudson. He will sell Bean-Chamberlin machines in connection with his own "Best" pneumatic coating machines and "Stay-There" paints.

Hicks Railway Equipment.—Hicks Locomotive and Car Works continue to be busily engaged in repairing and rebuilding railway equipment for use by railways throughout the United States. Its most recent orders came from West Virginia and Arkansas. F. M. Hicks, 277 Dearborn street, Chicago, conducts the Hicks plant. He is prepared to quote price on equipment to those about to buy.

Westinghouse Motor-vehicle Exhibit.—Westinghouse Electric & Manufacturing Co. of Pittsburgh, Pa., will make an extensive exhibit of electrical equipments for motor vehicles and motor-vehicle charging stations at the third annual automobile show at Madison Square Garden, New York city, January 17 to 24. W. M. Probasco of Westinghouse Companies' publishing department and Hayden Eames of the automobile department will be in attendance.

New Engineering Firm.—The firm of Maxey & Anderson, civil and mechanical engineers, Houston, Texas, has been formed for a general consulting engineer business, especially the engineering of irrigating plants, many of which are being built in Texas and Louisiana. John Wharton Maxey, who has had charge of much important engineering work, and William E. Anderson, for many years mechanical engineer for American Cotton Co., comprise the firm.

Electrically-Driven Shops.—At the regular meeting of the New England Railroad Club, Boston, on December 9, a paper on "Electrically-Driven Shops" was presented by Robert L. Warner, Boston, sales manager of Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa. Mr. Warner's paper was illustrated by a large selection of stereopticon views showing many examples of the application of direct-current and induction motors to the driving of machine-shop tools and other apparatus.

Recent Jewell Orders.—New York Continental Jewell Filtration Co., Mills Building, New York, has received an order from York (England) Water-Works for an additional 2,000,000 gallon filter plant, increasing the plant of 4,000,000 gallons installed last year. The Hungarian government has ordered a Jewell equipment. Extensive orders have also been received from the Manhattan department of water supply, New York city; Borden Condensed Milk Co., New York, and other well-known companies.

The Continuous Oiling System.—Pittsburg Gage & Supply Co., Pittsburgh, Pa., is equipping two 3000-horse-power Allis engines of the Pittsburg Steel Co., Monessen, Pa., plant with the White Star continuous oiling system. It will also equip three 400-horse-power engines for Claflon (Pa.) Steel Co., and six 500-horse-power engines in electric-light and power plant of union depot at Pittsburg, Pa., for Pennsylvania Railroad. The same systems are also being furnished to Swift & Co., Fort Worth, Texas; Seere & Co., Moline, Ill., and Amherst (Mass.) Gas Co.

Wellesley's Power Plant.—Wellesley College is to have an entirely new and up-to-date power plant. Apparatus will be installed for heating all the buildings, extending over several acres, and the grounds will be lighted

by electricity. Electric motors will also be used for operating elevators and blowers for ventilation. Westinghouse Electric & Manufacturing Co. of Pittsburgh furnishes for this plant two alternating-current engine-type two-phase alternators, separately excited, one of 150 kilowatts and one of 75 kilowatts; also a five-panel switchboard.

Ruberoid Roofing.—It is said that the United States government has ordered 1,500,000 square feet of Ruberoid roofing for use in the Philippines. Ruberoid roofing is the product of the Standard Paint Co., 100 William street, New York city, N. Y., and has for eleven years been in satisfactory use on the roofs of factories and warehouses of leading manufacturers of this and foreign countries. Some idea of the size of this single order may be gained from the fact that this quantity would make a single strip thirty-six inches wide and 100 miles long.

Engine Sales.—Savoy Hotel, Kansas City, is installing an electric plant, consisting of 125-horse-power engine direct connected to 75-kilowatt General Electric generator.

Glauber Brass Manufacturing Co., Cleveland, Ohio, is installing an electric plant. A 175-horse-power engine will be used in this installation.

Monument Pottery Co., Trenton, N. J., recently installed an electric-power plant, consisting of 125 and 50-horse-power engines direct connected to Western Electric Co. generators.

Ball Engine Co., Erie, Pa., furnished the engines for these installations.

Electric Elevators.—The extent to which the aid of electricity is being invoked in promoting comfort and convenience in dwellings is well illustrated by a recent contract made by the Otis Elevator Co. of New York to install five electric elevators in a private residence. The elevator equipment is to consist of a passenger elevator, a servants' elevator and a dumbwaiter, all to be automatically controlled by push buttons within the cars and at the several landings. The contract also calls for a sidewalk elevator for ashes, etc., and an automobile lift for conveying motor cars from the street level to a storage-room in the subbasement.

Albany Grease in South.—Cotton-mill owners and others in Dixieland who are interested in lubrication will shortly have an opportunity to learn all about Albany grease, the ideal lubricant for machinery of all kinds. Messrs. Adam Cook's Sons, 313 West street, New York city, the only makers, state that their representative, J. Hernandez, will make a trip through the entire South during February, visiting the various industries in the interest of their famous compound. Albany grease is guaranteed to solve all lubrication troubles, and its general use in all parts of the world proves the assertion that it will give equally satisfactory results in any climate.

Asbestos Packing.—A ring of wire insertion asbestos high-pressure packing, in constant use for six years, will be shown by H. W. Johns-Manville Company, 100 William street, New York, to anyone interested. This packing was recently removed from the steam end of a Worthington duplex compound pump used in the elevator service of the Woodbridge Building, New York. It caused the engineer no trouble. When removed the packing was in such excellent condition as to permit of further efficient service, notwithstanding its six years' use. The rod is still perfectly smooth. The packing worked under 125 pounds pressure; pump capacity 3,000,000 gallons every twenty-four hours.

Modern Towing Methods.—An interesting article concerning modern dredging and towing methods appeared in a recent number of the Nautical Gazette, a New York journal of navigation, shipbuilding, marine engineering, etc. It refers especially to the gravel-dredging operations now being done in the Niagara river. In connection with the towing operations necessitated by the work, the Shaw & Spiegle towing machine is used. Remarkable results have been obtained with this machine. It performs its work regardless of weather conditions, and should be investigated by all having towing work in prospect. The American Ship Windlass Co. of Providence, R. I., manufactures the Shaw & Spiegle machine.

Wolf Company Extends Facilities.—Buyers of flour-milling, power-transmitting and grain-handling machinery, also of turbine wheels and machinery for special purposes, will be interested to hear that the Wolf Company of Chambersburg, Pa., has completed arrangements for an Atlantic coast and export department. Offices will be opened February 1 in the Pennsylvania

Building, 15th and Chestnut streets, Philadelphia. James J. Pollard will be manager, assisted by W. M. Nissley, and they are thoroughly familiar with Wolf machinery. This office will be prepared to submit estimates on the smallest or largest contract, and will give especial attention to export trade and to that of the New England States, New York, New Jersey and a portion of Pennsylvania and Delaware.

"The Mecklenburg."—Mecklenburg Hotel and Sanatorium is a new and modern building just completed at Chase City, Va. It contains 125 beautiful rooms, many having private baths, wide corridors, parlors, amusement rooms, etc. The extensive verandas and sun parlors are very attractive. This entire building is steam-heated and electric-lighted; has hot and cold water throughout; is supplied from an artesian well 133 feet deep, furnishing 100,000 gallons of fine water daily. The dining-room has been made a feature by the architect, and arrangement of kitchen, pantry, cold storage, etc., have been made with every regard for convenience of a high-grade cuisine. The Chase City Mineral Water Co., Seventh and Cary streets, Richmond, Va., has at great expense built and equipped this building in a modern and complete manner throughout. For the mineral waters of this place great virtues are claimed.

Stanley Electric Plans.—Stanley Electric Manufacturing Co. of Pittsfield, Mass., will hold a meeting of stockholders on February 11 to approve the action of the directors in resolving that capital stock be increased from \$3,000,000 to \$10,000,000. Plans for a great increase of facilities have been under way for some time, and the new issue will provide the necessary funds. It will be remembered that the Stanley Company recently secured an order from the New York Edison Co. aggregating over half a million dollars for dynamos and other electrical apparatus, some of which is to be the largest of its kind ever constructed. This indication of their invading the field of heavy work is now amply verified. Moreover, funds will be provided by the increase for certain important developments which the engineers of the company have been planning for some time. Among these developments is a new system of operation for heavy long-distance electric railways, which possesses marked advantages over systems previously experimented with.

TRADE LITERATURE.

Woodworking Machinery.—A handsome catalogue has been received from the J. A. Fay & Egan Co., Cincinnati, Ohio, descriptive and illustrative of patent woodworking machinery, single machines or complete equipment.

"Sparks From the Anvil."—The January issue of the magazine published by the Crucible Steel Co. of America, Pittsburgh, Pa., "Sparks From the Anvil," has been received. This publication is at all times interesting. The January issue contains a number of readable articles.

Firearms Calendar.—Harrington & Richardson Arms Co., Worcester, Mass., issues an attractive calendar, advertising its revolvers. The painting reproduced shows a group of young people engaged in target practice. A girl in the foreground seated in a hammock and displaying a very good target indeed makes an attractive center for the rest of the illustration.

Steam Road Rollers.—Julian Scholl & Co., 126 Liberty street, New York, have sent us a folder of four pages illustrating and describing in a terse way "Universal" steam road rollers, a stone crusher and a platform spring sprinkling wagon. The success of the "Universal" roller (patented) is said to be largely due to the simple, practical and durable way in which it is built.

Fireproof Decorative Covering.—H. W. Johns-Manville Company, 100 William street, New York, is sending out an advance sheet of catalogue describing "Salamandrite," a new fireproof product used for decorative coverings for walls, ceilings, etc., wherever a substitute is desired for wood for decorative purposes. It is described as fireproof, waterproof, and entirely sanitary.

Richardson Automatic Scale.—Richardson Scale Co., maker of automatic weighing machinery, Park Row Building, New York, manufactures a scale operated entirely by gravity. The Richardson scale obtains absolute balance at every weighing, is practically without friction, is free from vibration, occupies little room, and is a rapid and accurate weighing device. Catalogue is now ready.

Cold-Water Paint for Interior Finish.—That is the kind of paint that Magnite is. It gives a beautiful effect; its finish is firm and hard, water will not harm it nor age discolor. Magnite is made in white and sixteen tints and colors. The manufacturer issues a mailing card to remind people of the merits of Magnite. The J. A. & W. Bird Co. of Boston is the manufacturer.

From John Rourke & Sons.—A calendar for 1903 has been received from John Rourke & Sons, 610 to 634 Bay street, east, Savannah, Ga., iron and brass founders and machinists, blacksmiths and boiler-makers. Heavy forgings with this firm are specialties. They manufacture the Sampson sugar mills and pans, and deal extensively in steam engines, injectors, steam and water fittings, etc.

Boston & Maine Messenger.—The January number of the Boston & Maine Messenger, published by passenger department of Boston & Maine Railroad, Boston, Mass., has been issued. The articles of interest in this number are "Woburn, the Tannery Center," "Advertising Schemes," "No More Ticket Scalping in Chicago," and "Canada's Winter Resorts." This little magazine is well illustrated.

Machine-Tool Operation and Motor Drive.—A reprint of the paper presented at the twenty-ninth meeting of the New York Electrical Society in December by Charles Day of Dodge & Day, modernizing engineers, Nicetown, Philadelphia, Pa., has been issued. This paper is "The Requirements of Machine-Tool Operation, With Special Reference to the Motor Drive," and is a most interesting and instructive one. The data and tables contained in this paper were compiled by Messrs. Dodge & Day.

Standard Twist Drills.—Standard Tool Co., New York, manufacturer of twist drills of the highest quality, has issued an attractive calendar, one containing much valuable tabulated information for the shop superintendent, master mechanic and machine-shop foreman. Standard twist drills, taps, grip sockets, milling cutters, spring cutters and flat-spring keys, drill chucks and reamers are exceedingly well known because of the accuracy and care with which they are made. These tools have enjoyed a deservedly high reputation for a long time.

Electric Locomotive.—The C. W. Hunt Company, West New Brighton, Staten Island, N. Y., is distributing a leaflet, "Pamphlet No. 022," describing the Hunt electric storage battery locomotive. The narrow and broad gauge electric locomotive of this type and make are illustrated in this pamphlet. Two illustrations are printed side by side, which are of interest; one shows a three-ton load on a 2 per cent. grade being moved by men, the other a five-ton load on a 5 per cent. grade drawn by a narrow-gauge locomotive used in a shop. The comparison is striking.

Phosphor-Bronze Prices.—Buyers of "Elephant" brand phosphor-bronze are invited to take notice that the manufacturers have issued a new price-list, superseding all previous lists. This manufacturer is the Phosphor-Bronze Smelting Co. of 2200 Washington avenue, Philadelphia. Operators who require phosphor-bronze in the conduct of their enterprises are urgently invited to investigate the company's alloys. The company's plant is being constantly added to and improved, and it is in a position to execute orders to the great satisfaction of its customers. Write for information.

Calendar Idea.—With the compliments of the Draper Company, Hopedale, Mass., a very unique calendar has reached this office. Each leaf has eighteen days; the dates begin with Monday, December 23. The 29th, 30th and 31st of December are printed in red ink, just as the first eight dates in February falling on the next page are printed. Ample space is left to the right of the numerals for any memorandums on the dates. The illustration, which is seen through a cut-out in the calendar stock, is printed on a separate piece of enameled cardboard fastened on behind. It shows the Draper plant and a loom.

"Cotton Chat."—Draper Company, Hopedale, Mass., manufacturer of cotton-mill machinery, is issuing "Cotton Chat," an interesting publication devoted to the cotton-mill industry. The articles contained in the latest number are interesting and instructive. The policy of this firm of breaking up second-hand looms, which it receives in part payment for and replaced by the Northrop, is attracting a great deal of comment. The foreign press comments on it as a very far-sighted policy, but one which few firms would have the courage to undertake. The Northrop loom is automatic, and of unusually fine workmanship.

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CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with every one interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in a town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and it is often advisable to add the names of one or more incorporators as an aid to the postmaster in delivering mail.

ALABAMA.

Anniston—Publishing.—Labor Review Publishing Co., with capital of \$4000, has been incorporated. Chas. B. Rouse is president; Albert E. Thornton, secretary.

Anniston—Cornmeal Mill.—Anniston Mercantile Co. will remodel and equip with new machinery the Model City Mills.

Birmingham—Land Improvement.—Chartered: Caldwell Escambia Land Co., with capital of \$3000, by J. M. Caldwell and others.

Birmingham—Coal-mining, etc.—R. R. Stober, T. H. Spencer and W. H. Soper have incorporated Central Cahaba Coal Co., with capital of \$3000 and privilege of increasing to \$50,000, for mining coal and iron.

Birmingham—Steam-heating Plant.—American District Steam Co. of Lockport, N. Y., has the contract mentioned last week for installation of underground steam-heating system for the Birmingham Railway, Light & Power Co. American Company furnished and manufactures all material, and installs the work complete. Mains will range in size from eighteen to six inches in diameter.

Birmingham—Oil Works.—G. T. Wofford and others, reported lately to establish plant for manufacture of lubricating oils, etc., have organized Southeastern Oil Co. to deal in oils and greases and compound special lubricating oils.*

Birmingham—Typewriter-ribbon Factory. F. X. Hammille Co., 114½ Twenty-first street, Birmingham, Ala., contemplates establishing plant for manufacturing typewriter ribbons.*

Clay County—Graphite Mines.—Alabama Flake Graphite Co., reported recently as incorporated for mining and manufacturing graphite, has a capital stock of \$100,000 and owns 120 acres of graphite lands in Clay county. Address the company, care R. H. Woodward, Y. M. C. A. Building, Baltimore, Md.

Dothan—Ice Plant.—Dothan Ice Co. has contracted for installation of five-ton ice plant.

Empire—Coke Ovens.—Empire Coal & Coke Co. has awarded contract to A. J. Reilly for erection of its proposed 250 coke ovens.

Ensley—Furnace.—Tennessee Coal, Iron & Railroad Co., D. H. Bacon, president, Bir-

mingham, will build modern furnace with maximum capacity of 350 tons, and later, with new ones of same class, to replace three or four that are now in use.

Enterprise—Oil Mill.—Southern Cotton Oil Co. (Montgomery, Ala.) will build a \$10,000 cotton-oil mill.

Florence—Furnace.—Sloss-Sheffield Steel & Iron Co. (offices at Birmingham) will blow out its Philadelphia furnace for relining and other repairs.

Florence—Ice Plant.—Florence Ice & Coal Co. has purchased site for erection of its proposed 20-ton ice plant.

Gadsden—Saw-mill.—Queen City Lumber Co., W. F. Fullington, manager, has purchased saw-mill at Lenoir City, Tenn., and will remove same to Gadsden; capacity will be 60,000 feet of lumber per day.

Huntsville—Mining.—It is reported that W. I. Wellman and associates will develop a new mining district in North Alabama.

Huntsville—Cotton Mill.—W. I. Wellman and T. W. Pratt are negotiating with New York capitalists for the erection of a large cotton factory.

Mobile—Steamship Lines.—Commercial Steamship Co. has been incorporated, with capital stock of \$200,000, to operate steamship lines, especially in the importation of fruits; Rolf Zeburg, president; John B. Cefalu, vice-president, and Hugo Seldon, secretary.

Mobile—Contracting Company.—George A. Robinson Contracting Co., originators of Robinson's composition roofing, has been incorporated. Geo. A. Robinson is president; James C. Simpson, vice-president; H. J. Woods, secretary.

Mobile—Mercantile.—J. B. Goodman Mercantile Co., with capital of \$25,000, has been incorporated by James B. Goodman and others.

Montgomery—Paint and Color Works.—Montgomery Paint and Dry Color Works has been incorporated, with capital of \$50,000, to manufacture paints and colors, by A. H. Munger of Kansas City, Mo.; J. T. Roberts, Alva Fitzpatrick and W. B. Davidson.

Montgomery—Public Improvements.—Extensive improvements will be made in West End, including paving of streets, electric lights, water-works, etc. Address "The Mayor."

ARKANSAS.

Hot Springs—Medicine Factory.—Chartered: F. F. F. Remedy Co., with capital of \$30,000, by J. S. Fulton (president), J. L. Babler, James T. Moore and others.

Little Rock—Mercantile.—Chartered: Stainback, Brown & Co., with capital of \$50,000, by B. F. Brown and others.

Maryhattiana (P. O. Cowan)—Zinc Mill.—Messrs. Tengarden will erect 125-ton zinc mill.

McCrory—Mercantile.—Chartered: McCrory Mercantile Co., with capital of \$15,000, by C. W. Studvant (president) and others.

Millburn—Flour Mill.—J. J. Lawson, Zion, Ark., will erect flour mill at Millburn.

Monette—Supply Company.—Chartered: Monette Supply Co., with capital of \$10,000; J. E. Blankinship, president; H. W. Graham, vice-president, and J. E. Blankinship, secretary.

Paragould—Lumber Mill.—Brown Lumber Co., with capital of \$6000, has been incorporated by Frank Kendall (president), T. H. Garrett and W. H. Brown.

Pine Bluff—Brick Works.—Pine Bluff Brick Co. has increased capital from \$75,000 to \$100,000.

Pine Bluff—Mercantile.—Chartered: John F. Sennett Company, with capital stock of \$25,000, by John F. Sennett (president) and others.

Stamps—Woodworking Factory, etc.—Louisiana & Arkansas Land & Lumber Co. has been organized, with capital stock of \$1,000,000, for manufacturing shingles, erection of saw and lumber mills, etc. William Buchanan is president; Henry Moore, vice-president; J. A. Buchanan, secretary.

Van Buren—Mercantile.—Chartered: Geo. R. Wood Dry Goods Co., with capital of \$15,000, by George R. Wood (president) and others.

Walnut Ridge—Cotton-oil Mill.—Phoenix Cotton Oil Co. of Memphis, Tenn., will build 80-ton cottonseed-oil mill. Site has been bought.

FLORIDA.

Jacksonville—Crosstie Factory.—Benj. F.

Watkins, W. P. Coachman, W. W. Frazier, John G. Christopher and others have incorporated Florida Crosstie Co., with capital stock of \$500,000, for manufacturing crossties for railroads, etc.

Jacksonville—Real Estate.—Real Estate Investment Co. has been incorporated, with capital of \$50,000, by W. H. Baker, James D. Baker and Robert Baker.

Jacksonville—Timber Lands.—Consolidated Naval Stores Co. has purchased the entire holdings in Florida of the Florida Land & Lumber Co., consisting of 223,000 acres of pine timber and turpentine lands.

Jacksonville—Mercantile.—Chartered: Jones-Shaylor Company, with capital of \$30,000, by Isaac S. Jones and others.

Punta Gorda—Electric-light Plant.—Franchise has been granted A. E. White and associates for establishment of electric-light plant.

Kissimmee—Cattle Company.—Chartered: Lee Parsons Cattle Co., with capital of \$15,000, to deal in cattle, construct bridges, irrigation system, etc.

Kissimmee—Cattle Company.—U. A. Lightsey, W. H. Lewis, Robert Caruthers and others have incorporated Lightsey, Lewis & Caruthers Cattle Co., with capital of \$45,000.

St. Augustine—Canal.—Florida Coast Line Canal & Transportation Co. will issue \$100,000 of bonds for completing its canal from St. Augustine to Biscayne Bay.

Tampa—Cigar Factory.—Chartered: Cuesta, Ray & Co., with capital of \$300,000, for manufacturing cigars, by Angel L. Cuesta, Peregrino Rey, John Trice and J. D. Young.

GEORGIA.

Adairsville—Mercantile.—Chartered: Adairsville Mercantile Co., with capital of \$6000, by N. C. Aderson and others.

Albany—Ice Plant.—R. S. Wells has contracted for installation of a 12-ton ice plant.

Atlanta—Publishing.—Andrew M. McConnell and S. Russell Bridges have incorporated Alkalest Magazine Co., with capital of \$25,000, for conducting publishing business.

Atlanta—Steam-heating Plant.—City may later on install battery of boilers in city hall to furnish steam heat. Address "The Mayor."

Atlanta—Park Improvements.—Georgia Railway & Electric Co. will, it is reported, expend \$30,000 in improvements to Ponce De Leon Springs, including erection of summer hotel, etc. Local company headed by J. G. Rossman has leased the park, and will also expend large amount in improvements.

Atlanta—Car Works.—Frank Weldon, 723 Equitable Building, is endeavoring to organize company to build the \$1,000,000 car works recently reported as talked of.

Atlanta—Lumber Company.—Seaboard Lumber Co. has been incorporated, with capital of \$1000 and privilege of increasing to \$25,000, by J. D. and J. W. Humphries.

Atlanta—Lumber Mills.—Crescent Lumber Co. has been incorporated, with capital of \$20,000 and privilege of increasing to \$50,000, by W. S. Wilson, C. W. Tift and H. S. Nash, for operating saw and planing mills.

Augusta—Medicine and Cabinet Company. John Phintzy, W. B. Marks, J. E. Hogan and others have incorporated American Medicine & Cabinet Co.

Canton—Gold, Silver, Iron, etc., Mines.—Thomas C. Crenshaw, T. M. Puckett of Bartow county, S. N. Hillhouse of Cherokee county and E. P. Crenshaw of Cobb county have incorporated Mary Lee Gold Mining Co. for development of gold, silver, copper, iron, etc., mines. Capital stock is \$500,000, with privilege of increasing to \$1,000,000.

Columbus—Showcase Factory.—Plans and specifications for proposed improvements by Columbus Showcase Co. have been completed and contracts will be awarded in few days; plans call for three-story addition, 50x200 feet.

Columbus—Cotton-ropes Mill.—Eagle & Phenix Mills will build an addition for manufacturing cotton rope.

La Grange—Ice Factory and Electric-light Plant.—Ice factory of fifteen tons capacity and electric-light plant will be erected. Names of those interested will be announced later.

Moultrie—Timber-land Development.—Stetson Lumber Co. of Macon, Ga., recently reported as having purchased 3000 acres of timber land in Colquitt county, has arranged

to have the timber cut; mill will have capacity of 30,000 feet per day; dry-kiln will be erected. With this mill in operation company will control an output of five mills, with total capacity of 100,000 feet per day; J. P. Stetson, president.

Rome—Knitting Mill.—Charles S. Pruden, W. J. West, John Berry and others will incorporate Rome Hosiery Mills and establish plant; capital stock \$25,000, with privilege of increasing to \$250,000.

Rome—Stove Foundry.—Bowie Stove Foundry will be established with capital of \$30,000, J. L. Bass, J. A. Glover, W. A. Patton and others are interested.

Rome—Excelsior Factory.—Rounsaville & Bro. contemplate erecting excelsior factory.*

Statesboro—Ice Factory.—J. F. Field will erect ice factory.

Sylvester—Mercantile.—Chartered: Pinson-Johnson Company, with capital of \$10,000, by A. H. Pinson and E. M. Johnson.

Sylvester—Mercantile.—Chartered: Pate-Smith Company, with capital of \$10,000, by J. H. Pate and others.

Sylvester—Medicine Company.—West Medicine Co., with capital of \$10,000, has been incorporated to manufacture medicines.

Thomaston—Mercantile.—W. L. Jenkins and B. A. Childs have incorporated Jenkins-Childs Company, with capital of \$5000.

Toccoa—Foundry, etc.—D. M. Reaves will establish bobbin, spool and handle factory; also erect foundry and machine shops.

Toccoa—Furniture Factory.—Simmons Furniture & Lumber Co. has increased its capital by \$10,000 to enlarge and improve its plant.

Valdosta—Saw-mill.—J. F. Lewis, J. F. Bailey and C. G. Stevens have incorporated Progress Saw-Mill & Lumber Co. for conducting saw-mill, etc.; capital \$3000.

Waycross—Pump Factory.—Joseph D. Smith and Richard C. Cannon, reported recently to establish pump factory, have, with H. A. Cannon and others, incorporated Cannon Pump Manufacturing Co., with capital of \$25,000. Company will manufacture pumps and pump appliances.

KENTUCKY.

Bowling Green—Electric-light Plant.—Municipal electric plant of from 1000 to 2000 lights capacity will be erected. Address M. H. Crump, consulting engineer.*

Danville—Pipe Lines.—Appalachian Gas & Oil Co. will construct pipe lines to Danville and other central Kentucky towns, conducting gas to be used for lighting and manufacturing purposes.

Hopkinsville—Wagon Factory, etc.—Forbes Manufacturing Co., reported recently as incorporated to absorb hardware and manufacturing business of Forbes & Bros., has completed organization with M. C. Forbes, president; James K. Forbes, vice-president; Geo. E. Gary, secretary, and H. H. Abernathy, treasurer. Company will greatly increase its manufacturing output and enlarge all departments. New machinery will be installed in wagon factory and capacity doubled.*

Hyden—Oil Wells.—R. L. Wallace of Pennsylvania has purchased 1000 acres of oil lands in Leslie county from J. W. Horseley, and will organize stock company to develop the property.

Lexington—Land Improvement.—Aylesford Land Co., with capital of \$60,000, has been incorporated for improving real estate, by L. G. Cox, George K. Graves, Jonett Shouse and others.

Logan—Flour Mill.—George R. Moore of Lexington, Ky., has purchased mill on Elkhorn creek; will improve and operate same.

Louisville—Paint and Color Works.—A Northern and a Southern corporation are investigating with a view to establishing plants for development of ochre deposits and manufacture of colors, paints, etc. Secretary Commercial Club can give information.

Louisville—Oil and Refining Company.—Kentucky Oil & Refining Co. has been organized, with capital of \$500,000, and T. C. H. Vance, president; J. A. Warinner of Seventy-Six, Ky., vice-president, and John F. Smiley, secretary. Company has purchased nineteen leases, aggregating 3088 acres. Address Room 708, Columbia Building.

Louisville—Mercantile.—Louisville Meat Market has been incorporated, with capital of \$5000, by John Burge, H. B. Taylor and others.

Louisville—Power-house, etc.—Louisville Railway Co. contemplates expending about \$1,000,000 for betterments, including \$300,000 for power-house, station, etc.

Louisville—Pillow Factory.—Louisville Pillow Co. has been incorporated, with capital of \$10,000, by S. D. Crane, M. P. Kelly, J. D. Haynes, John Oliver and others.

Louisville—Packing Plant.—S. S. Brown and F. Bradward of Pittsburg, Pa.; Henry Rauh of Indianapolis and others have purchased plant of Louisville Packing Co. for about \$210,000, and will operate same in connection with large stockyards.

Louisville—Table Supplies.—Chartered: Kentucky Table Supply Co., with capital of \$25,000, by John W. Gains and others.

Louisville—Candy Factory.—Bradass & Gleasons will rebuild their candy factory, reported burned at loss of \$10,000.

Nebo—Mining.—The Mineral & Mining Land Co., lately reported under Louisville as incorporated by John C. Davidson and others, has purchased the mines and privileges of Coyle & Rodgers, near Nebo, and is securing 200 acres of additional lands. Hywel Davies, Kenner, Ky., is engineer for company.

New Haven—Chair Factory.—Welkel Chair Co. of Louisville, Ky., is investigating the timber lands about New Haven with a view to establishing supply plant for its Louisville factory.

Pinsonfork—Saw-mill.—G. W. Blackburn and Floyd Blackburn, operating as Blackburn & Blackburn, will erect portable saw-mill.*

Sturgis—Coal Mines.—Union Coal Co. is being organized for development of coal mines.

Waverly—Flour Mill.—Culver Milling Co. will install additional machinery.

West Point—Flour Mill.—H. W. Monroe will erect flour mill.

Winchester—Spoke Factory.—Scobee-Williams Spoke Co. has been incorporated, with capital of \$20,000, for manufacture of spokes, by J. C. and R. P. Scobee, H. G. and J. D. Williams.

LOUISIANA.

Abbeville—Brick Plant.—Gus Gotchaux has purchased controlling interest in Caldwell & Co.'s brickyard, and will enlarge the plant.

Algiers—Marine Works.—Southern Marine Works, H. F. Jorgensen, manager, will have plans and specifications made for extensive improvements, to include erection of building to accommodate additional machinery now being secured, and which will cost about \$20,000.

Berwick—Tub and Pole Factory.—S. M. Crites will establish tub and pole factory.*

Crowley—Electric Lights and Water-works. City will hold an election to decide issuance of \$100,000 of bonds for enlarging and extending electric-light plant and water-works. Address "The Mayor."

Lake Charles—Rice Mill.—Reiser Bros. have made proposition to build paper mill of twenty tons per day capacity, provided the city will furnish 60,000 tons of rice straw to be used in five years.

Lake Charles—Lumber Mill.—Juanita Lumber Co. has been incorporated, with capital of \$5000, by L. Pouts, W. S. Ferguson and J. S. Edwards.

Lake Charles—Mercantile.—Chartered: The Bryan Store, Limited, for dealing in farming implements, by J. W. Bryan and others; capital \$25,000.

Lake Charles—Printing.—Chartered: Welch Printing Co., with capital of \$5000, by J. T. Walker, Fred. D. Calkins and Gordon Crank.

Lake Providence—Cotton Compress.—Carroll Compress Co., Limited, F. X. Ransdell, president, has purchased and will install an 80-inch cotton compress.

Monroe—Electric Plant and Water-works. W. E. Hawks, trustee, has purchased for \$75,500 plant of Monroe Water-Works & Light Co., which has been in litigation.

New Orleans—Canal Improvements.—St. Louis & San Francisco Railroad Co. will improve the old basin canal property, of which it has secured control; improvements include dredging to a depth of nine feet, etc., at a cost of \$50,000; R. L. Winchell, general manager, St. Louis, Mo.

New Orleans—Olive Oil Company.—A. Gullbault, F. Watkins Sherman and others have incorporated Olive Oil Importing Co., Limited, with capital of \$10,000, for manufacture of oil, etc.

Shreveport—Bridge.—Shreveport Bridge & Terminal Co. will issue \$1,800,000 of bonds, proceeds of which will be used for constructing bridge across Red river; T. Alexander, president.

MARYLAND.

Baltimore—Water-power-Electrical Developments.—The syndicate acting through Continental Trust Co. for purchase of United Electric Light & Power Co. and Mt. Washington Electric Light & Power Co. completed its contract on January 15 by payment of \$804,237.33. This transfers the \$2,000,000 common stock of United Company and all stock and bonds of Mt. Washington Company. The contract is in accordance with arrangements as reported November 20. It is the initial step in the development of the power of Susquehanna river and its transmission by electricity to Baltimore, Philadelphia and Wilmington. Continental Trust Co. previously closed contract for its clients to supply United Railways with 40,000 horse-power for a period of thirty years. This power is to be ready by October, 1905. The first development will be for 40,000 horse-power, and two others of a like amount will follow. L. B. Stillwell of New York city is supervising engineer for trust company. The electric-light companies will continue without any immediate changes in management. It is said that engineering plans and estimates of the results obtained have been completed, and that bids for construction can be invited as soon as the syndicate authorizes such action. S. Davies Warfield is president of Continental Trust Co.

Baltimore—Elevator.—Geo. M. Moulton & Co., Chicago, Ill., have contract for rebuilding grain elevator for Pennsylvania Railroad, as recently reported; capacity, 1,500,000 bushels.*

Baltimore—Water Company.—Chartered: Artesian Water Co., with capital of \$1000, by Leonard W. Downin, Francis M. Mills and others.

Baltimore—Water Company.—Crystal Spring Mineral Water & Land Co. has been incorporated, with capital of \$2000, by Daniel G. Adelsberger, Wm. J. Fiddis, Jos. T. Flaunt, Sr., and others.

Baltimore—Summer Resort.—Electric Park & Exhibition Co., August Fenneman, president, will expend about \$40,000 in improvements, which include erection of new buildings, scenic railways, merry-go-rounds, Ferris wheel, etc. Bids will be asked later.

Baltimore—Publishing.—Chartered: Maryland Tribune Publishing Co., with capital of \$5000, by John T. Barber and others.

Baltimore—Commission Company.—Chartered: Kirwan-Schall Company, with capital of \$20,000, by John E. Kirwan and others.

Baltimore—Bolt Works.—Baltimore Rolling Mill Co., capitalized at \$200,000, has completed its rolling mill previously reported. Puddle mill has annual capacity of 9000 tons and finishing mills annual output of 30,000 tons. Spikes, horseshoes and other iron and steel specialties will be manufactured. The company now contemplates adding a bolt works with annual capacity of 600 tons; Henry Wehr, president; offices in Continental Trust Building.

Baltimore—Stone Mill.—J. J. Walsh & Son have contract for rebuilding stone mill of Beaver Dam Marble Co., recently burned; will be of frame construction, 60x40 feet.

Baltimore—Chemical Company.—Domelon Chemical Co. has been incorporated, with capital of \$100,000, for manufacture of patent medicines.

Frederick—Cannery.—Colt & Dixon Manufacturing Co. has been incorporated, with capital of \$10,000, by Elmer E. and C. M. Dixon of Frederick, Thomas S. and Samuel Colt of New Jersey and others.

Frederick—Gas Works.—People's Gas Co., capital \$25,000, has been incorporated to operate the Isabella Gas Works reported during the week as purchased by Baltimore and Philadelphia parties. Incorporators are Francis K. Carey and Edward P. Hill of Baltimore, Jacob Rohrbach and Edward C. Markell of Frederick and Albert Beadle of Philadelphia.

Hagerstown—Printing Plants.—S. M. Hockman & Co., operating box factory and printing plant, has consolidated with printing plant of J. S. McCardell, and will operate under one management; J. S. McCardell, manager.

Havre de Grace—Box Factory.—Delmar Lumber Manufacturing Co., for erection of large box factory, has been incorporated, with capital of \$100,000; T. A. Vasey of Delmar, Del., president; T. F. Shockly, secretary; J. P. Morris, manager. Address the president.

Hazen—Coal Mines, etc.—R. G. Van Newkirk of Hyndman, Pa., and associates have leased 1000 acres of coal land, as lately reported, and will develop same. They have also purchased 225 acres of glass sand rock, and will operate plant to capacity of 500 tons per day.*

Hoods Mills—Flour Mill.—Hoods Milling

Co. will install new machinery, contract for which has not been let; will also erect 25,000-bushel steel storage tank.

Lonaconing—Coal Mines.—Coromandel Coal Co. has been incorporated, with capital of \$10,000, by Duncan Sinclair, Midlothian; Malcolm Sinclair, Cumberland; Fred. M. Little, South Amboy, N. J.; Malcolm Baxter, Jr., New York, and Alex. Adams of Cumberland, Md.

Riverside—Portland-cement Plant.—It is reported that M. S. and E. R. Ackerman of Plainfield, N. J., will erect Portland and common cement plant at Riverside. W. L. Sperry of Cumberland, Md., is also said to be interested.

Salisbury—Tile and Brick Works.—Peninsula Brick Co. is installing new machinery for increasing capacity, as lately reported, and will during the summer install tile machine and put in new kilns.

Towson—Laundry.—Chartered: Elite Laundry, with capital of \$5000, by Henry P. Mann and others.

Washington, D. C.—Coffee Company.—Chartered: Browning & Baines, with capital of \$200,000, for dealing in coffee, by Henry Clay Browning, James E. Baines and others.

Washington, D. C.—Pharmacy.—Garges Pharmacies has been incorporated, with capital of \$25,000, by John T. Hetzell, Martinsburg, W. Va.; Geo. G. Hetzell and Alfred B. Garges, Washington.

Washington, D. C.—Transportation.—Washington & Potomac River Steamboat Co. has been incorporated, with capital of \$100,000, by F. W. Alexander, Elbert S. Mahoney and N. Bunch.

MISSISSIPPI.

Batesville—Lumber Company.—C. M. Carrier & Co. has been incorporated, with capital of \$60,000, for conducting railroad and lumber business.

Greenville—Handle Factory.—Greenville Handle & Manufacturing Co. has been incorporated, with capital stock of \$25,000 and privilege of increasing to \$100,000, by W. B. Gelatt, A. Wineman and L. W. Wineman.

Greenville—Soda-water Factory.—Delta Manufacturing Co. has been incorporated, with capital of \$30,000, for manufacture of soda water, candy, etc. J. B. Watt is president; Abe Blum, vice-president; J. D. Barbee, Jr., secretary.

Laurel—Canning Factory.—Laurel Truck Growers' Association contemplates erecting cannery.*

Lexington—Printing.—Chartered: Mutual Co-operative Association, with capital of \$10,000, for printing and publishing, by M. E. Fritz, L. E. Fritz, W. A. Fritz and others.

Liberty—Plow Factory.—Beard Harrow & Implement Co. has been incorporated, with capital of \$10,000, for manufacture of farming implements.

Manila—Supply Company.—Manila Supply Co., with capital of \$10,000, has been incorporated by H. W. Graham (president), J. S. Franklin, O. D. Sanborn and others.

Meridian—Water-works.—City has definitely decided to construct proposed water-works system; \$150,000 of bonds was recently voted. Address "The Mayor."

Mississippi City—Lumber Company.—Chartered: Wolf River Co., with capital of \$25,000, for conducting lumber, turpentine and transportation business.

Moss Point—Ice Factory.—Moss Point Ice Co., recently reported incorporated, has contracted for ten-ton ice plant.

Okolona—Timber-land Development.—Nashville & Mississippi Delta Land & Timber Co. has been incorporated, with capital of \$45,000.

Scranton—Electric Plant, Ice Factory and Water-works.—Chas. T. Ballard, Samuel Culbertson, Jeff D. Syewart, John L. Helm and Attila Cox of Louisville, Ky., have purchased electric plant, ice factory and water-works at Scranton, and will organize company to operate same, expending a large amount on extensions and improvements. Address Attila Cox at Louisville.

Saratoga—Lumber Company.—Saratoga Lumber Co. has increased capital from \$10,000 to \$25,000.

MISSOURI.

Cape Girardeau—Mercantile.—Chartered: Glenn Mercantile Co., with capital of \$25,000, by Herman S. Glenn and others.

Carthage—Mining.—Chartered: Square Mining Co., with capital of \$25,000, by W. A. Boyack, J. H. Millard, A. Bentley and others.

Coldwater—Flour Mill.—A. M. Costner, Fred Fulton and P. Paolis will erect roller flour mill, and have not purchased equipment.

Fortuna—Mining.—Bluff Springs Mining Co. has been incorporated by R. P. Williams,

A. F. Davis, J. D. Waverton and others; capital \$16,000.

Hannibal—Lime Company.—Hannibal Lime Co., with capital of \$50,000, has been incorporated by Wm. A. Munger, Lyman P. Younger, John E. Jones and others.

Joplin—Mining and Smelting.—Osage Mining & Development Co. has been incorporated, with capital of \$75,000, for general mining and smelting, by A. E. Berry of Speed, Mo.; J. R. Walje of St. Louis and W. V. Draffen of Boonville.

Kansas City—Elevator.—William T. Kemper Elevator Co., reported lately as incorporated, has purchased the Missouri Elevator of 350,000 bushels capacity, and will repair and improve same, installing new machinery, etc. Frank Kaucher of St. Joseph, Mo., is architect.

Kansas City—Realty Company.—Town Realty Co. has been incorporated, with capital of \$2000, by Robert W. Beck, Wm. Logan and others.

Kansas City—Land Company.—Orient Land Co., with capital of \$10,000, has been incorporated by Neal S. Duran, E. S. Mosher and M. V. Watson.

Kansas City—Commission Company.—Chartered: Meyer Commission Co., with capital of \$10,000, by Leopold H. Meyer and others.

Kansas City—Fuel Company.—Great Northern Fuel Co., with capital of \$100,000, has been incorporated by W. S. McCall, Geo. F. Riehl, Alexander Mitchell and others.

Kansas City—Construction.—Chartered: Independent Construction Co., with capital of \$2000, by F. S. Treadway and others.

Liberty—Water-works.—City will vote January 20 (not 26, as lately reported) on issue of \$64,000 of bonds for water-works; Jas. Costello, mayor.

Linneus—Mercantile.—Chartered: Meyer & Locke Mercantile Co., with capital of \$12,000, by Lee Meyer and others.

New Madrid—Lumber Company.—Mishler Lumber Co. has been chartered, with capital of \$60,000, by Wm. C. Mishler, W. J. Artley, Clark and Wm. D. Knott.

St. Joseph—Clothing Factory.—Keys Clothing Co. has been incorporated, with capital of \$10,000, by W. J. Keys, Moses Schloss, Charles C. Clow and others.

St. Louis—Heating and Construction.—Chartered: Missouri Heating & Construction Co., with capital of \$10,000, by James J. Cullen, H. L. Lampe, Jesse G. Barr and others.

St. Louis—Fire-escape Company.—Chartered: Travelers' Safety Fire Escape Co., with capital of \$50,000, by C. H. Wickard, Oscar F. Davis, Chas. R. Fife and others.

St. Louis—Electric Company.—Ewing-Merkle Electric Co. has been incorporated, with capital of \$50,000, by Nat W. Ewing, Wm. G. Brown, Wm. S. Merkle and others.

St. Louis—Leather Sporting Goods.—Brauer Brothers Manufacturing Co. has been incorporated, with capital of \$7000, for manufacturing leather sporting goods and novelties, by Arthur J. Brauer, Robert T. Brauer, Edward J. Brauer and others.

St. Louis—Exhibit Company.—Chartered: Jerusalem Exhibit Co., with capital stock of \$1,000,000, by Thomas B. Harlan, A. W. Lambert, Jos. P. Whyte and others.

St. Louis—Mercantile.—Chartered: Fricke Dry Goods Co., with capital of \$5000, by Herman F. Fricke and others.

St. Louis—Drug and Chemical Company.—Chartered: Evans Drug & Chemical Co., with capital of \$25,000, by John J. Evans, Alex. L. Shoults and Chas. W. McFarland.

St. Louis—Lumber Company.—Chartered: Fidel Ganahl Lumber Co., with capital of \$50,000, by Fidel Ganahl, John, George and Nicholas Le Brun.

St. Louis—Shoe Factory.—Roberts, Johnson & Rand Shoe Co., recently reported, will erect five-story shoe factory 200x60 feet and use electric transmission of power.*

St. Louis—Stock Farm.—Chartered: Missouri Poultry & Stock Farm Co., with capital of \$10,000, by W. H. Cato, J. D. Wilfley and X. P. Wilfley.

St. Louis—Metal Company.—Chartered: Theodore Hertz Metal Co., with capital of \$20,000, by Theodore Hertz, Edmund J. Hertz and others.

St. Louis—Wallpaper Company.—Chartered: Schulz Wallpaper Co., with capital of \$10,000, by August R. Schulz, Rudolph Schulz and others.

St. Louis—Investment Company.—Delmar Investment Co. has been incorporated, with capital of \$250,000, by Joseph, Samuel W. and Cyrus Adler.

St. Louis—Money-order Company.—Chartered: Continental Telegraph Money Order Co., with capital of \$20,000, by Chas. T. No-

land, Wm. J. Armstrong, D. J. Foley and others.

NORTH CAROLINA.

Ahoskie—Woodworking Factory.—J. H. Mitchell contemplates erecting chair factory, and will later on install machinery for manufacturing baluster rails, scroll work, etc.*

Asheville.—Chartered: Appalachian Fine Arts Co., with capital of \$400, by R. S. Smith and others.

Asheville—Stone Works.—Miller-Marable Twentieth Century Manufacturing Co. has been incorporated, with capital of \$20,000, to manufacture artificial stone and concrete blocks. C. H. Miller, D. T. Marable, W. R. Whitton and others are the incorporators.

Asheville—Tanning-extract Factory.—Cherokee Tanning Extract Co. has been organized for establishing tanning-extract plant. Plant will consist of four buildings, 40x120 feet, and ten 125-horsepower boilers; capacity will be sixty barrels of concentrated extract per day.

Brookfield—Cotton Mill.—E. L. Shuford Manufacturing Co. contemplates adding 11,000 spindles and 300 looms; it now has 7500 spindles and 200 looms.

Burlington—Locust-pin Factory.—H. Trotter & Son will establish locust-pin factory.

Charlotte—Belting Factory.—Fayerweather & Ladew will install additional machinery in their belting factory to increase capacity.

Charlotte—Smelter.—Frank Meach of New York city, representing New York parties, is reported as making arrangements for erection of a \$300,000 smelter at Charlotte. It is also said that Arthur Brisbane of New York is a stockholder in the company.

Concord—Cotton Mill.—Odell Manufacturing Co. has increased capital stock from \$500,000 to \$900,000 to build an addition of 16,000 spindles for manufacturing yarns. Company now has 30,000 ring spindles and 1726 looms.

Currituck—Timber Lands.—Chartered: Carolina Timber Co., with authorized capital of \$100,000.

Franklin—Spoke and Handle Factory.—H. Trotter & Son will establish spoke, handle and locust-pin factory, operating as the H. G. Trotter Pin Co.*

Garnett—Mercantile.—Chartered: Teiser Mercantile Co., with capital of \$5000, by S. F. Turner, W. M. Young of Henderson, N. C., and others.

Gastonia—Mercantile.—Chartered: J. A. Glenn Company, with capital of \$10,000, by J. A. Glenn and others.

Hickory—Electric Light Plant.—M. E. Thornton has purchased plant of Hickory Electric Light Co. He will enlarge, improve and operate same.

High Point—Lumber Mills.—Snow Lumber Co. will double capacity of its mills.

Leasburg—Flour Mill.—Dixon & Thomas will install roller process mill.

Leasburg—Flour Mill.—H. T. Connally will erect roller flour mill, replacing one previously burned.

Mt. Olive—Mercantile.—Chartered: Kornegay-Manly Company, with capital of \$5000, by R. Kornegay and others.

Red Springs—Hardware Company.—Red Springs Hardware Co. has been incorporated, with capital of \$5000, by B. W. Townsend, John T. McNeil and others.

Raleigh—Water-works Association.—North Carolina Water-works Association has been organized to promote the purification of water, etc. J. C. Michie is president, and E. B. Bain, secretary.

Warrenton—Cannery.—Hugh J. White will establish cannery.*

Washington—Live-stock.—Chartered: Washington Horse Exchange Co., with capital of \$100,000, by H. Susman, Oliver Creder and others.

Washington—Piano Company.—North State Piano Co., with capital of \$100,000, has been organized by S. C. Bragaw, L. R. Mayo, J. F. Buckman and others.

Washington—Brick and Tile Works.—Famlico Brick & Tile Co. has been incorporated, with capital of \$100,000, by W. A. Blount, W. H. Lodge and C. S. Doughty.

Winston-Salem—Iron Works.—Salem Iron Works will be enlarged by erection of three-story wood and pattern shop of brick, with metal roof, 40x108 feet. There will also be water tower about 70 or 80 feet high, with large tank for fire protection. No machinery has as yet been contracted for. Address W. T. Spough, secretary.*

SOUTH CAROLINA.

Bishopville—Real Estate.—Bishopville Real Estate Co., with capital of \$5000, has been incorporated by Thomas G. McLeod of

Lynchburg, Va.; J. C. Scarborough and others.

Camden—Cotton-mill Supplies.—S. B. Turner, W. T. Hasty and R. W. Mitcham have incorporated Vulcan Supply Works for manufacturing cotton-mill supplies; capital \$5000.

Charleston—Timber Company.—United Timber Co. has been chartered, with capital of \$100,000, by Bright Williams of Darlington, S. C., and N. S. Gibson of Winona, S. C.

Charleston—Flour Mill.—Ficken-Jordan Company, reported lately, has capital of \$80,000, and not \$5000.

Charleston—Mercantile.—Standard Hat Co. has been organized, with capital of \$50,000; Robert A. Smyth, president; T. R. McGowan, vice-president, and James P. Foster, secretary.

Columbia—Mercantile.—Chartered: Southern Wholesale Jewelry Co., with capital of \$10,000; J. P. Matthews, president.

Conway—Tobacco Company.—People's Tobacco Warehouse Co. has been incorporated, with capital of \$100,000. H. L. Buck is president; H. H. Woodward, secretary, and J. A. McDermott, treasurer.

Dillon—Mercantile.—Chartered: J. W. Dillon & Son Co., with capital of \$25,000, by T. A. Dillon and others.

Greenville—Cotton Mill.—Woodside Cotton Mills (now building plant of 10,000 spindles and 300 looms) proposes increasing capital stock from \$200,000 to \$400,000 and enlarging mill to 30,000 spindles and 900 looms. Original plans permit of such enlargement at a minimum cost. J. D. Woodside is secretary.

Greenville—Cigar Factory.—American Cigar Co. of New York will erect cigar factory at Greenville.

Greenville—Improvement Company.—L. W. Parker, A. A. Bristow, W. J. Thackston, H. J. Haynsworth, Frank Hammond and others have incorporated Greenville Improvement Co., with capital of \$25,000, to encourage manufacturing enterprises, improve real estate, etc.

Honepath—Cotton Mill.—Chiquola Manufacturing Co. has completed its mill announced last year, but instead of 11,250 spindles and 300 looms, as previously announced, has installed 15,360 spindles and 400 looms. Capital is \$200,000.

Lake City—Hardware Company.—Lake City Hardware Co. has been incorporated, with capital of \$8000, by A. H. Williams and J. A. Green.

Leesville—Tobacco Company.—Chartered: Planters' Warehouse Co., with capital of \$1500, to conduct tobacco warehouse business, by E. J. Etheridge, D. M. Crosson, S. F. Langley and others.

Summerville—Ice and Cold-storage Plant.—Chartered: Summerville Ice & Cold Storage Co., with capital of \$30,000, by Milton P. Skinner (president), C. G. Huntington and others.

Winnsboro—Mercantile.—Chartered: Robinson-Elliott Company, with capital of \$30,000, by T. K. Elliott and others.

TENNESSEE.

Alamo—Flour Mill and Elevator.—Farmers' Mill & Gin Co. will erect 100-barrel flour mill and 30,000-bushel elevator. Contracts have not been awarded.

Chattanooga—Improvements.—Public improvement committee will petition legislature for authority to issue \$550,000 of bonds for improvements, which will include \$125,000 for lighting plant, \$100,000 for new city hall, \$200,000 for streets and sewers, \$75,000 for school buildings and \$50,000 for other improvements. Address "The Mayor."

Clarksburg—Manufacturing.—Chartered: Hauer Manufacturing Co., with capital of \$20,000, by Frank Hauer, F. H. Hauer and Anthony Hauer.

Elizabethton—Corn Mill.—J. R. Hendrix is installing 24-inch corn mill.

Elkton—Flour Mill.—E. N. Grigsby contemplates erecting 30 or 40-barrel flour mill.

Fayetteville—Lighting.—Fayetteville Electric Light Co. has contract for lighting town for five years, and will make extensive improvements, including construction of dam across Elk river.

Jackson—Telephone System.—Home Telephone Co. is preparing to begin construction of its proposed system.

Johnson City—Laundry.—A. A. Ferguson, R. K. Williams and others have purchased and will operate Johnson Steam Laundry.

Joppa—Flour Mill.—Roller flour mill will be erected. G. W. Bollinger can probably give information.

Knoxville—Steel Plant.—Knoxville Iron Co. does contemplate the construction of a steel plant, as reported last week, but no definite arrangements have been made nor any contracts placed. When the company planned

the \$500,000 rolling mill it is now completing this steel plant was also considered.

Knoxville—Saw-mills, Timber Lands, etc.—Vestal Lumber Manufacturing Co. has purchased 714 acres of timber lands in Blount and Sevier counties, as reported recently, and is erecting saw and planing mill at South Knoxville; will also operate four circular mills. Most of the machinery has been purchased. Robert Vestal is in charge.

Knoxville—Mercantile.—Chartered: Gothard & Calloway Company, with capital of \$15,000, by E. Clyde Gothard and others.

Knoxville—Chair and Table Factory.—Knoxville Table & Chair Co., H. W. Shaw, secretary, will install additional machinery for increasing capacity.

Memphis—Mercantile.—John L. Frank and others have incorporated J. L. Frank Grocery Co., with capital of \$15,000.

Memphis—Cotton-oil Mill.—Continental Cotton Oil Co. will increase capital from \$50,000 to \$250,000 for erection of additional mills.

Memphis—Lumber Mills.—J. O. Nessen & Co., lumber manufacturers of Manistee, Mich., will establish offices in Scimitar Building, Memphis, and incorporate as J. O. Nessen Lumber Co., with Walter S. Denning, general manager. No plans for erection of manufacturing plants have as yet been made.

Memphis—Veneer and Seating Works.—Alnappe Veneer & Seating Co., M. C. Haney, president, Algoma, Wis., operating large veneer and seating works, secured site at Memphis and will erect plant; capitalized at \$75,000.

Memphis—Clothing Factory.—W. W. Sharpe, W. E. Jenkins, R. G. Lisle and others have incorporated W. W. Sharpe Company, with capital of \$10,000, for manufacturing clothing and conducting mercantile business.

Memphis—White-lead Works.—Memphis White Lead Works has increased capital from \$60,000 to \$100,000.

Memphis—Lumber Company.—Helman Lumber Co. has been incorporated, with capital of \$20,000, by D. L. Helman, G. B. Hehn, E. E. Williams and others.

Memphis—Telephone System.—Memphis Telephone Co. will, it is said, expend about \$400,000 in constructing and acquiring lines in territory tributary to Memphis.

Morristown—Knitting Mill.—James L. Wood will organize J. L. Wood Company to establish knitting mill for hosiery; will install twelve machines.

Nashville—Sand-filtration Plant.—United States Sand Filtration Co., Indianapolis, Ind., has proposed construction of sand-filtration plant for improving the water supply; cost would be about \$500,000.

Nashville—Stove Works.—Phillips & Buttorff Manufacturing Co. contemplates expending from \$50,000 to \$100,000 in enlarging its factory for manufacture of stoves, house furnishings, etc.

Nashville—Telegraph Company.—Tennessee District Telegraph Co. has increased capital from \$100,000 to \$200,000.

Nashville—Carriage Works.—Mitchell-Hunt Company, manufacturer of carriages, etc., has been incorporated, with capital of \$5000, by T. J. Mitchell, F. Z. Hunt, J. J. Todd and others.

Nashville—Manufacturing.—Chartered: Haner Manufacturing Co., with capital of \$20,000, by Otto Haner, Geo. Haner, F. H. Haner and others.

Newport—Tannic-acid Plant.—Newport Tannery, J. W. Fisher, manager, will erect tannic-acid plant to be operated in connection with the tannery; to cost \$60,000.

Ripley—Street Improvements, Schools, etc.—Bills will be introduced in the legislature authorizing issuance of \$30,000 of bonds for street improvements and school purposes. Address "The Mayor."

Rutledge—Flour Mill.—F. M. Smith will install 40-barrel flour mill.

Spencer—Shops.—It is reported that the Southern Railway Co. (general offices, Washington, D. C.) will expend \$300,000 in enlargements and improvements to its shops at Spencer.

Tullahoma—Coal Mines.—Sewanee Coal, Coke & Land Co. has acquired 4000 acres of additional coal properties, which it is developing for doubling capacity of present output.

Watauga—Flour Mill.—Milan & Williams will build 40-barrel flour mill, contract for which has not been let.

Watauga—Flour Mill.—G. W. St. John will build 40-barrel flour mill.

Waynesboro—Iron and Timber Lands.—Tennessee Valley Iron & Railroad Co., in which S. H. Brooks and John Overton of Memphis, Tenn., are interested, has sold

71,000 acres of iron and timber lands in Wayne county to Pittsburg (Pa.) parties, who will, it is said, build railroad to and develop the property.

TEXAS.

Abilene—Electric Plant, Water-works, etc. M. P. Kelley, Gainesville, Texas, has contract for electric plant, steam-heating plant and water-works (at epileptic colony) for \$18,500.

Alto—Box Factory.—Singletary & Spears will install machinery for manufacture of fruit and vegetable boxes.

Austin—Mining.—Chartered: Merchant Mining Co., with capital of \$50,000, for general mining, by S. L. Crawford, Fred Sterzing, B. H. Etelson and others.

Beaumont—Undertaking.—Chartered: Broussard Undertaking Co., with capital of \$10,000, by Alex. Broussard and others.

Beaumont—Brewery and Ice Factory.—Beaumont Ice & Brewing Co. will shortly begin construction of its proposed \$250,000 brewery and ice plant. Bids for construction will be opened January 25. Plans and specifications furnished on application.

Beaumont—Irrigating.—Beaumont Irrigating Co. has increased its capital stock to \$200,000.

Beaumont—Hardware Company.—Beaumont Hardware Co., with capital of \$20,000, has been incorporated by J. E. Adkins of New Orleans, La.; G. W. Garrett, J. L. Tighe, W. E. Peaker and others.

Beaumont—Commission.—Chartered: Carroll Commission Co., with capital of \$30,000, by H. W. Ferguson and others.

Brownwood—Cotton Compress.—Western Compress Co., with capital of \$5000, has been incorporated by H. T. Williams, Brooks Smith, W. J. Neale and others.

Bryan—Cannery.—E. W. Kirkpatrick is interested in the establishment of a cannery.

China Springs—Water Company.—China Springs Water Co., with capital of \$2650, has been incorporated by N. M. Roberts, W. C. Talbert and M. T. Bettles.

Cooper—Mercantile.—Chartered: Norris Stephens Company, with capital of \$30,000, by C. L. Stephens and others.

Corpus Christi—Land Improvement.—Kleberg Town & Improvement Co., capital \$500,000; Armstrong Town & Improvement Co., capital \$500,000; Kennedy Town & Improvement Co., capital \$250,000, and Driscoll Town & Improvement Co., capital \$100,000, have each been incorporated by Robert J. Kleberg, John B. Armstrong, John T. Kennedy, Robert Driscoll, Sr., George F. Evans, Frank Robinson and others for development of new towns.

El Paso—Saddle Factory.—Jackson-Hughes Company has been incorporated, with capital of \$100,000, for manufacture of saddles, harness, etc., by Felix Jackson, E. S. Hughes and John B. Walton, Jr.

El Paso—Electric Plant.—John P. Ramsey has been granted franchise for erecting electric-light plant. He was recently reported as applying for franchise.

Fort Worth—Condiment Factory.—Julius Boehme of Galveston, manufacturer of spices, vinegar, etc., roaster of coffee, etc., will establish factory in Fort Worth.

Fort Worth—Land Improvement.—National Land Co. has been incorporated, with capital of \$5000, by J. A. Sloan, J. M. Massie and others.

Fort Worth—Mercantile.—Chartered: Reeves Mercantile Co., with capital of \$15,000, by Joe W. Reeves and others.

Fort Worth—Electric-light Plant.—George W. Armstrong and associates have received franchise for construction of electric-light plant.

Greenville—Clothing Factory.—Chartered: Misht Clothing Co., with capital of \$25,000, by J. C. R. Haynes, E. L. Frost, J. B. Calvert and others.

Hallettsville—Creamery.—French Simpson and others contemplate erecting creamery.

Houston—Mercantile.—Chartered: Enterprise Grocery Co., with capital of \$10,000, by J. C. Wilson and others.

Houston—Oil-well Properties.—Charles H. Markham, vice-president of Sunset-Central lines in Texas, including Southern Pacific system, has purchased the properties in Hardin county of Beaumont & Saratoga Oil & Pipe Line Co. for \$320,000. Southern Pacific has been reported from time to time as being desirous of securing this property for the purpose of developing wells and producing oil for use on its engines.

Houston—Land Improvement.—Suburban Homesstead Co. has been incorporated, with capital stock of \$50,000, by D. A. Hagerman, H. E. Fuller, A. N. Latham and others.

La Grange—Mercantile.—Chartered: Von Rosenberg-Heintze Company, with capital of \$15,000, by C. J. Von Rosenberg and others.

Longview—Brick Works.—R. F. Echols, Geo. Echols, J. R. Castleberry and P. E. Coleman have formed \$20,000 company for manufacture of pressed brick; most of machinery said to have been purchased.

Marshall—Fruit Farm.—R. R. Scott has sold to Chicago parties 3000 acres of land, which will be improved as a fruit farm.

Meridian—Mercantile.—Chartered: Lomax Mercantile Co., with capital of \$10,000, by E. E. Lomax and others.

Midlothian—Lumber Mill, Grain Elevator, etc.—Midlothian Lumber Co., Midlothian Grain & Elevator Co. and Midlothian Milling & Elevator Co. have consolidated as Midlothian Lumber, Elevator & Milling Co., with capital of \$25,000; B. F. Hawkins, president; H. T. Holland, vice-president; J. E. Sewell, treasurer, and T. M. Dees, secretary.

Neches—Box Factory.—T. J. Posey will install machinery for manufacture of fruit and vegetable boxes.

Orange—Schools.—City will vote an issuance of \$22,000 of bonds for repairing old and erecting new school building. Address "The Mayor."

Palestine—Power Plant.—Palestine Light & Power Co. has been incorporated, with capital of \$15,000, by E. J. Spence, J. S. Trittle, M. C. Wade and others.

Pecos City—Irrigation System.—Texas and Philadelphia parties contemplate tapping Toyah lake and convey the water through a canal 100 miles long for irrigating and cultivating 300,000 acres of land.

Port Arthur—Electric Light, Ice and Water Plants.—Company recently reported as organizing to construct ice, electric light and water plants has appointed W. H. Lovegrove engineer in charge. Plans and specifications have been completed and bids will be opened February 7. Plans, etc., on view at engineer's office in Port Arthur and Houston.

Royse—Mercantile.—Chartered: Murphy-Miller Mercantile Co., with capital of \$30,000, by H. E. Miller and others.

San Antonio—Mercantile.—Chartered: Joske Bros. & Co., with capital of \$300,000, by Alex. Joske and others.

Sealy—Irrigating System.—San Felipe Irrigating Canal Co. has been organized and will soon begin operations; is not open for bids; A. Ludwig, chief engineer and general manager.

Stephensville—Drug Company.—Chartered: Schnabel Drug Co., with capital of \$5000, by F. A. Schnabel and others.

Stockdale—Mercantile.—Chartered: Wheeler, Covington & Co., with capital of \$25,000, by B. M. Covington and others.

Temple—Mercantile.—Chartered: Sherrill Mercantile Co., with capital of \$25,000, by H. L. Sherrill and others.

Weatherford—Electric Plant and Water-works.—City has purchased for \$42,000 the local water-works and electric-light plant; will operate same and abandon plant now under construction. Address "The Mayor."

West—Cemetery.—Chartered: Bold Springs Cemetery Co., by W. R. McDaniel and others.

Westville—Lumber Company.—West Lumber Co. has been incorporated, with capital of \$100,000, by W. W. West of Westville, L. Davidson of Houston and others. It was heretofore Josseland & West Lumber Co., operating with an output of 12,000,000 feet of lumber per year. This will be increased.

Wharton—Brick Works.—M. Votaw of Beaumont contemplates establishing brick works at Wharton.

VIRGINIA.

Alexandria—Zinc Company.—Chartered: Adalinda Zinc Co.

Alexandria—Bottling Works.—Robert Fortner Brewing Co. will establish additional bottling works, expending about \$15,000.

Alexandria—Pump Factory.—Emerson Pump Co., reported recently as incorporated (under Baltimore, Md.) for manufacture of a patent steam pump, has purchased site and will erect plant at Alexandria. Thos. H. McKee is president; Wm. R. Emerson, vice-president, and Chas. E. Wood, secretary.

Charlottesville—Overalls Factory.—H. C. Marchant Manufacturing Co. has been organized to establish overalls factory reported recently. It will also operate knitting mill recently purchased, as was stated, adding 100 sewing machines for manufacturing overalls. H. C. Marchant is president; R.

P. Valentine, vice-president, and C. B. Somerville, secretary.

Danville—Cotton Mills.—Dan River Power & Manufacturing Co. (reported last September as to build two mills of 40,000 spindles and 1200 looms each) will soon open bids for construction of its first mill (to contain 43,000 spindles), together with weave shed and clothhouse. Contractors desirous of bidding are invited to address for information R. A. Schofield, secretary, or Lockwood, Greene & Co., Boston, the architects in charge.

Fredericksburg—Transportation—Chartered: People's Steamboat Co., with capital of \$20,000, by W. D. Carter (president), A. W. Embry, A. Randolph Howard and others.

Grady—Flour Mill.—Wm. T. Swanson will erect flour mill, and has not awarded contracts.

Grandy (P. O. Cochran)—Canning Factory. G. A. Bentley and associates will erect canning factory.

Luray—Flour and Feed Mill.—Page Milling Co. (established), reported recently as incorporated, will install large feed mill in connection with its flour mill.

Manchester—Knitting Mill.—E. Shields Hosiery Co. will establish knitting mill, removing its machinery from Scotland Neck, N. C. R. E. Reichelt is manager.

Mt. Solon—Flour Mill.—J. W. Cogle will build 40-barrel steam flour mill.

Newport News—Steel Plant and Rolling Mill.—It is rumored that Northern parties are investigating with a view to erecting steel plant and rolling mill to furnish steel castings, steel plates, angle bars, etc. C. P. Orent, president of Newport News Shipbuilding & Dry-Dock Co., in a telegram to the Manufacturers' Record, says: "Not aware rolling mill and steel plant are to be built at Newport News in the immediate future. Advantages so good no doubt such plant will be established there sooner or later."

Norton—Coal Mines and Coke Ovens.—R. L. Brown of Big Stone Gap and associates, recently reported as having purchased coal lands, etc., will operate as Guest River Coal & Coke Co. (Incorporated). Property purchased was that of Gray Ridge Coal & Coke Co. New company will erect from 50 to 100 coke ovens, contract for which has been let to J. A. L. Minor. Contract for machinery has also been awarded. M. Smith is engineer. Address R. L. Brown, president.

Petersburg—Tannery.—Blackstone Tanners' Co. has been incorporated, with capital of \$20,000.

Richmond—Tobacco Factory.—Wright-Sur-burg Tobacco Co. has been incorporated, with capital of \$25,000, for manufacture of tobacco; J. Wright, president; John W. Parsons, vice-president; M. E. Wright, A. D. Wright and others.

Romoke—Silk Mill.—H. Kaulfers, as representative of Valentine Bliss of Scranton, Pa., has announced that his principal will establish branch silk mill to cost \$10,000.

Wytheville—Machinery Works.—W. C. Stone of Manchester, Tenn., will establish works for manufacture of milling machinery.

WEST VIRGINIA.

Bluefield—Overall Factory.—Americann Novelty Co., Nicholas Wise, president, will establish overall factory.

Cairo—Oil Wells.—Pittsburg & Parkersburg Oil Co. has been organized, with capital of \$1,000,000, for development of 500 acres of oil lands near Cairo, W. Va. Incorporators include J. B. Simpson, Eli Nevada, G. M. Hood of Philadelphia, Pa.; W. C. Amos, G. W. Jewett, F. B. Cable of Pittsburg, Pa., and others.

Cameron—Electric Light Plant.—Cameron Pottery Co. will install electric plant to furnish lights for its own use and for supplying the town.

Charleston—Poultry Company.—Farmers' Poultry Co., with capital of \$10,000, has been incorporated by F. A. Hively and others.

Charleston—Construction.—Deepwater Construction Co. has been incorporated, with capital of \$500,000, by W. N. Page, R. C. Taylor, W. H. Evans of Ansted, E. W. Knight of Charleston and others.

Clarksburg—Cigar Factory.—United States Cigar Co., Pittsburg, Pa., will build \$100,000 branch factory at Clarksburg.

Clarksburg—Coal Mines.—Wabash Coal Co. has been incorporated, with capital of \$200,000, by J. F. McGraw, M. D. Post of Grafton, W. B. Maxwell of Clarksburg and others.

Clarksburg—Coal Mines, Lumber Plant, etc.—C. H. Williams, James T. Graff and Justice Cox, Jr., of Philadelphia, Pa., have, as recently reported, purchased Alexander &

Rich Mountain Railway and 15,000 acres of coal and timber lands of Rich Mountain Lumber Co. Coal properties will be fully developed and lumber business continued, operating as Randolph Coal & Lumber Co. Address Justice Cox, Jr., 552-554 Builit Building, Philadelphia, Pa.

Huntington—Coal Mines.—Guyan River Coal Co. has been incorporated, with capital of \$50,000, for development of coal mines, by G. G. Hadley, J. H. Felat, J. W. Perry and others.

Keyser—Furniture Factory.—Chartered: Richardson Furniture Co., with capital of \$50,000, for manufacture of furniture, by M. G. Richardson, R. G. Richardson, W. B. Burgess and others.

Keystone—Foundry.—Flat Top Iron & Foundry Co., with capital of \$15,000, has been incorporated for conducting foundry, by J. A. Ballard and C. W. Wade of Norfolk, Va.; C. P. North, J. W. Wiggles and others.

Morgantown—Coal Mines and Coke Ovens. W. P. Murray (care Pickands, Mather & Co.), Cleveland, Ohio, has purchased 6000 acres of coal lands near Morgantown, as was announced last week. He represents Pickands, Brown & Co. of Chicago, Pickands, Mather & Co. of Cleveland, Youngstown (Ohio) Iron, Sheet & Tube Co., and Ohio Iron & Steel Co. of Lowellville, Ohio. These interests propose to develop mines and erect coking plant to consume output. Undoubtedly construction of 500 coke ovens will be begun at an early date. Engineer has not been selected, nor any details decided.

Parkersburg—Oil and Gas Wells.—Warto Brothers & Reid Oil & Gas Co., with capital of \$10,000, has been incorporated by W. J. Wardo of Belpre, Ohio; W. A. Reid of Marietta, Ohio; I. M. Wharton of Bellville, W. Va., and others.

St. Albans—Coal Mines.—Black Band Collieries Co. has been incorporated, with capital of \$100,000, by Benjamin Moore of Chicago, Ill.; H. Collins, J. B. C. Drew of St. Albans and others.

Stone—Coal Mines and Coke Ovens.—Columbus Iron & Steel Co. of Columbus, Ohio, has purchased Raven Coal & Coke Co.'s coal mines, coke ovens, etc., and will develop the properties, erecting at once 100 coke ovens. G. S. Borden of Thurman, W. Va., is engineer in charge. J. H. Frantz, general manager at Columbus, or F. M. Shipley, in charge at mines, can be addressed. (This item was erroneously printed under Stone, Va., last week.)

Tunnelton—Coal Mines.—Atlantic Coal & Coke Co. has purchased 200 acres of additional coal lands adjoining present property, and will develop same.

Welch—Lumber Mills.—Hemphill Lumber Co. has been incorporated, with capital of \$10,000, by J. A. Deuchy, W. J. McClaren, E. L. Long and others.

Wheeling—Ice Factory.—Wheeling Ice & Storage Co., L. D. Wilson, president, will enlarge its plant by installation of two machines with daily capacity of sixty and twenty tons.

Wheeling—Oil Wells.—Nail City Oil Co. has been incorporated, with capital of \$25,000, by W. P. Campbell, W. L. Milton, Sheridan Moore and others.

Williamson—Printing.—Chartered: Southern Printing Co., with capital of \$3000, by R. H. Gerner, M. C. Hughes, Thomas B. Garner and others.

INDIAN TERRITORY.

Durant—Mercantile.—Chartered: Hale-Halsell Grocery Co., with capital of \$200,000, by A. B. Scarborough, Tom Hale and others.

Musoge—Laundry.—Contract has been closed for erection of a \$10,000 laundry. Address Secretary Chamber of Commerce.

Tulsa—Bridge.—Atchison, Topeka & Santa Fe Railroad Co. will construct bridge across Arkansas river; H. U. Mudge, general manager, Topeka, Kans.

OKLAHOMA TERRITORY.

Mountain Park—Mercantile.—Chartered: Hilyer-Bryan Mercantile Co., with capital of \$10,000, by B. Hilyer and others.

Ponca—Mining.—Chimney Rock Mining Co. has been incorporated, with capital of \$75,000, and Ponca Mining Co., with capital of \$10,000; both companies are operating ore mines, with O. P. Weiner, foreman and general manager.

Watonga—Creamery.—W. M. Blount of Iowa is interested in establishment of a creamery at Watonga.

Wildman—Mining.—Chartered: Iron Mountain Mining Co., with capital stock of \$1,000,000, by S. Anderson, F. M. Sparks and R. R. W. Rayel.

BUILDING NOTES.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Asheville, N. C.—Hotel.—Montreat Association contemplates enlargement of hotel.

Athens, Ga.—Library Building.—University of Georgia has accepted plans by Haralson Bleckley of Atlanta for library building 130x50 feet, to cost \$50,000; trustees also accepted plans for erection of three-story building.

Atlanta, Ga.—Store Buildings.—A. Steiner and H. F. Emery will replace structures recently burned by six-story fireproof building.

Algiers, La.—Roundhouse.—Plans and specifications have been completed for proposed 40 stall roundhouse to be erected by Southern Pacific Company; Chas. H. Tweed, second vice-president, New York, N. Y.

Attalla, Ala.—Church.—Methodist congregation, Rev. J. W. Haynes, pastor, will build \$7000 church of brick and stone.

Baltimore, Md.—Hotel.—John J. Kelly, Sr., E. B. Hunting and Telfair W. Marriott are reported as interested in erection of large hotel or apartment-house corner of Charles street and Lafayette avenue.

Bartow, Fla.—Hotel.—W. B. Talley of Lakeland, Fla., is preparing plans and specifications for proposed brick and stone hotel to be erected by Bartow Hotel Co.; building will be three stories, 125x125 feet. Bids will be asked as soon as plans and specifications are ready.

Benwood, W. Va.—Depot.—Pennsylvania Railroad Co. will, it is reported, erect new depot; J. B. Hutchison, general manager, Philadelphia, Pa.

Birmingham, Ala.—Temple.—Plans have been completed for proposed building of Labor Temple Association, and call for building four stories, of brick, 100x100 feet, fireproof and equipped with all modern improvements. Ullman & Thompson are the architects.

Bristol, Va.—Tenn.—Business Building.—John R. Dickey will erect \$12,000 business building.

Catonsville, Md.—Church.—John Hubner, chairman committee Salem Lutheran Church, is receiving bids for proposed \$12,000 structure.

Charlotte, N. C.—Warehouse.—The warehouse lately reported to be erected by N. J. Sherrill & Co. will be two stories and basement, of brick, 32x130 feet. Contract will be let in February.

Chattanooga, Tenn.—Warehouse.—Whigham Lumber Co. will erect brick warehouse and make other improvements at cost of \$10,000.

Columbia, Mo.—Association Building.—Young Men's Christian Association will erect a \$40,000 structure. Address "The Secretary."

Danville, Va.—Mill Construction.—Dan River Power & Manufacturing Co., R. A. Schofield, secretary, will soon invite bids on construction of cotton mill (to contain 43,000 spindles), weave shed and clothhouse. Contractors desirous of bidding are invited to address the secretary. Lockwood, Greene & Co., Boston, architects in charge, can also be addressed.

Elkton, Md.—Hospital.—Chartered: Cecil County Hospital has been incorporated by Drs. C. M. Ellis, Howard Bratton, Geo. S. Dare and others for erection of hospital.

Greeneville, Tenn.—Auditorium.—Odd Fellows will begin at once erection of proposed auditorium, which will be three stories, 50x100 feet, with seating capacity for 2000.

Helena, Ark.—Hotel.—Helena Hotel Co. has been incorporated, with capital of \$50,000, for building hotel. W. A. Short is president; S. C. Moore, vice-president; G. H. Fuller, secretary.

Jackson, Miss.—Hall.—Alcorn College has adopted plans for an industrial hall to cost \$5000.

Knoxville, Tenn.—Church.—First Cumberland Presbyterian congregation, Rev. R. T. Rodgers, pastor, will erect \$20,000 edifice.

La Follette, Tenn.—Store Building.—H. S. Stokes prepared plans and Thos. Crippen has contract for erecting store building for A. M. Riggs, lately reported.

Lindale, Ga.—Armory.—Massachusetts Mills in Georgia will build \$10,000 opera-house and armory.

Lynchburg, Va.—Business Building.—J. R. and T. W. Gilliam have awarded contract to C. W. Hancock & Son for erection of

three-story brick business building; plans by Fry & Chesterman.

Memphis, Tenn.—Temple.—Tennessee Consistory, Thirty-second Degree of Ancient and Accepted Scottish Rite Masons, will erect temple to cost \$40,000.

Meridian, Miss.—Depot.—F. T. Lack, architect Mobile & Ohio Railroad, Mobile, Ala., will open proposals January 24 for construction of freight depot at Meridian according to plans and specifications, which can be had by applying to architect.

Mincola, Texas.—City Hall.—City hall recently burned will be rebuilt. Contracts have not been awarded. I. H. Huffmaster, mayor.

Muskegon, I. T.—Opera-house.—C. T. Haskell will erect \$75,000 opera-house and hotel.

Nashville, Tenn.—Bank.—West Nashville Bank & Trust Co. (organizing) will erect bank building. A. B. Lamb, Stonewall Jackson, E. F. Poole and others are interested.

New Orleans, La.—Marine Barracks, etc.—Bids will be opened February 4 for constructing marine barracks and officers' quarters at naval station, Algiers, La. Plans, specifications, blank forms of proposals, etc., can be obtained upon application to R. E. De Buys, architect, 421 Carondelet street, New Orleans, and to F. L. Denny, U. S. M. C., quartermaster's office, Washington, D. C.

New Orleans, La.—Bank Building.—Commercial National Bank, J. H. Fulton, general manager, will erect one-story brick structure, 75x114 feet.

New Orleans, La.—Armory.—Louisiana Field Armory, reported burned at a loss of \$30,000, will be rebuilt. Address Col. John P. Sullivan.

New Orleans, La.—Hotel Annex and Bank Building.—Remington Construction Co., E. Remington, president, New York, N. Y., has contract for erecting St. Charles annex and Germania Bank building.

New Orleans, La.—Infirmary.—Touro Infirmary and Hebrew Benevolent Association, N. I. Schwartz, president, will expend \$25,000 on improvements; is also considering erection of \$250,000 hospital building.

Owensboro, Ky.—Apartment-house.—Plans have been completed for proposed \$30,000 apartment-house to be erected by Kenyon Realty Co.

Owensboro, Ky.—Office Building.—Davies County Title Co. and Owensboro Undertakers' Association will erect four-story office building 80x125 feet to cost \$40,000.

Richmond, Va.—Church.—Emanuel Baptist congregation will erect \$10,000 church. M. J. Dinmock prepared the plans.

Russellville, Ky.—Courthouse.—County has appropriated \$30,000 towards erection of new courthouse, as lately reported. Architect has not been engaged and no contracts awarded; J. W. Clark, judge county court.

San Angelo, Texas.—Business Building.—L. Schwartz & Co. have awarded contract for erection of \$20,000 business building.

San Antonio, Texas.—Market.—Swift & Co. will erect brick and stone market-house to cost \$10,000.

San Antonio, Texas.—Store and Office Building.—G. Bedell Moore has decided definitely to erect four or five-story brick store and office building, previously reported.

Scottville, Ky.—Courthouse.—W. Chamberlin & Co. of Birmingham, Ala., will prepare plans for proposed \$15,000 courthouse at Scottville.

Stevenson, Ala.—Church.—Scottsboro-Stevenson Methodist congregations will erect church; Rev. S. J. Parrish, pastor.

St. Louis, Mo.—Apartment-house.—Herbert C. Chivers has completed plans for Peristyle apartment-house; building will be four stories, 152x178 feet.

St. Louis, Mo.—Hospital.—Plans have been prepared for erection of an \$8000 hospital for German Protestant Orphans' Home.

St. Louis, Mo.—School.—Garber Bros. have contract at \$128,546 for erecting proposed Blow school building; Geo. T. Meyer & Bros. at \$3000 for plumbing, and J. J. Cullen Heating Co. at \$12,000 for heating and ventilating. Wm. B. Ittner prepared plans.

Texarkana, Ark.—Church.—Site has been purchased for proposed \$30,000 building for First M. E. Church; building will be of brick, with slate roof. Address "The Pastor."

Winchester, Ky.—Hotel.—W. E. Smith, Lexington, Ky., is architect, and F. F. Goodpaster and Robert George, contractors, for proposed hotel reported lately to be erected by C. B. George & Bro.; building will cost about \$25,000.

RAILROAD CONSTRUCTION.

Railways.

Annapolis, Md.—The Baltimore & Bel Air Electric Railway has been incorporated to build a line between Baltimore and Bel Air, Md., about twenty miles. The incorporators are S. A. Williams, George L. Van Bibber, John D. Worthington, Harold Walsh and J. Alexis Shriver. The capital stock is \$500,000.

Atlanta, Ga.—Application has been made to incorporate the Chattahoochee Terminal Railway to build a line about twenty miles long from or near Atlanta to Marietta. Those interested are Thomas A. Gramling, N. A. Morris, T. W. Glover and John Awtry of Marietta, Ga., and H. L. Collingsworth, W. P. Spaulding, Alex. C. King, Jack J. Spaulding, Charles D. Fuller and B. M. Fowler of Atlanta, Ga.

Baltimore, Md.—The Baltimore & Ohio Railroad Co. has organized the Fairmont, Shinnston & Clarksburg Railroad Co. to lower grades on the Parkersburg branch, and the Paw Paw Railroad Co. and the Fish Creek Railroad Co. to build branches to coal mines in West Virginia. J. M. Graham is chief engineer, Baltimore, Md.

Baltimore, Md.—Concerning the report that the Queen Anne's Railroad will build an extension south into Virginia and to Chincoteague Island, President W. H. Bosley informs the Manufacturers' Record that nothing has been done yet towards building such a line.

Baltimore, Md.—The Baltimore & Frederick Electric Railway Co. has received the report of engineers for the line, and it is expected will begin work early in the spring. The capital will be increased from \$1,500,000 to \$2,000,000. Those interested are Frank H. Callaway, John W. Ellard and James E. Ingram, Jr., of Baltimore; Senator Johnnie Beasman of Carroll county, and J. Roger McSherry of Frederick. Mr. Ingram is president.

Beaumont, Texas.—E. S. Kennedy is advertising for bids for grading on the proposed electric line between Beaumont and Sour Lake. H. K. Johnson and others are also interested.

Beaumont, Texas.—It is proposed to build a steam railway direct from Beaumont to Sour Lake Springs.

Birmingham, Ala.—It is reported that the Southern Railway will build twelve miles of yard track at Birmingham. Thomas Bernard is engineer maintenance of way at Chattanooga, Tenn.

Bon Air, Tenn.—Rails have been received for the Bon Air extension of the Nashville, Chattanooga & St. Louis Railway to Ravenscroft.

Cape Charles, Va.—Stockholders of the New York, Philadelphia & Norfolk Railroad are to meet at Cape Charles February 10 to increase the capital stock preparatory to making improvements. W. A. Patton is president, 26 South Fifteenth street, Philadelphia, Pa.

Chambersburg, Pa.—Thomas G. Brereton, engineer of the Cumberland Valley Railroad, running from Harrisburg via Hagerstown, Md., to Winchester, Va., writes the Manufacturers' Record reporting four miles of new double track put in operation, and says it will be continued rapidly, but the company is not making any contract for the work.

Charleston, W. Va.—The Morgan County Railroad Co. of Martinsburg has been incorporated to build a line from Magnolia to Deep Gully, both in Morgan county, and the Potomac Railroad Co. of Martinsburg has also been incorporated to build a line from Paw Paw, Morgan county, to the State line of West Virginia and Maryland. The incorporators of both lines are the same, as follows: Frederick G. Griffith, Hugh McNeil, Jr., Edward J. Siliman, Charles R. Weber, all of Baltimore, Md., and John J. Bumgardner of Westminster, Md. These are Baltimore & Ohio propositions. J. M. Graham is chief engineer at Baltimore, Md.

Chattanooga, Tenn.—The Chattanooga & Southern Railroad will, it is reported, build an extension south eighteen miles to Duke, on the Seaboard Air Line's Birmingham extension. W. W. Kent is general manager at Chattanooga.

Chicago, Ill.—The Atchison, Topeka & Santa Fe Railway will, it is reported, spend \$20,000,000 building 1000 miles of new lines in Oklahoma during 1903, connecting all the principal towns and cities. James Dun is chief engineer at Chicago.

Crowley, La.—William Washburn, R. C. Kidd and D. G. Bell are making the survey for the Louisiana Railroad.

Dallas, Texas.—W. A. Lafayette, from near Monterey, Mexico, is quoted as saying that the St. Louis & San Francisco Railroad

will be extended to Tampico, Mexico, via San Antonio. J. F. Hincley is chief engineer of construction, 800 Fullerton Building, St. Louis, Mo.

Denison, Texas.—The Houston & Texas Central Railway will, it is reported, build a number of additional yard tracks.

Fayetteville, Ark.—A stockholders' meeting of the Ozark & Cherokee Central Railway is to be held at Fayetteville March 14 to increase the capital to \$15,000,000 for building extensions as follows: Fayetteville to Jasper, Ark.; Muscogee, I. T., to Oklahoma City, Okla.; Muscogee, I. T., to Fort Smith, Ark.; Fort Gibson, I. T., to Joplin, Mo. E. W. Boynton is chief engineer at Fayetteville.

Fort Smith, Ark.—The Fort Smith & Suburban Railroad Co., in which State Senator George Sengel and others are interested, has bought nine blocks of land for terminals.

Greenville, S. C.—It is reported that the plan for building the Carolina, Knoxville & Western Railway will be revived and carried out. R. Mays Cleveland and others are reported to be interested.

Gulfport, Miss.—Mr. B. F. Howard writes to the Manufacturers' Record that a company has been organized to build an electric railroad twenty-seven miles along the coast, connecting several towns and resorts. Those interested are looking for capital to carry out the plans.

Gulfport, Miss.—Grading is reported to be progressing on the Gulf & Ship Island Railroad branch from Mendenhall to Columbia.

Guthrie, Okla.—A charter has been granted to the Mountain Park Electric Railway Co. of Mountain Park to build a line from Wildman to Mountain Park, fifteen miles. The incorporators are R. D. Simpson, G. J. Galena, Mark Roberts and J. C. Brown.

Guthrie, Okla.—It is reported that the "Frisco" extension between Enid, Okla., and Red Fork, I. T., will be continued eastward to Fort Smith, Ark., about 100 miles. J. F. Hincley is chief engineer of construction of the St. Louis & San Francisco Railroad, 800 Fullerton Building, St. Louis, Mo.

Guthrie, Okla.—It is reported that the Choctaw, Oklahoma & Gulf Railroad (Rock Island system) will begin work immediately on the proposed extension from Asher to Dallas, Texas. F. A. Molitor is chief engineer, Little Rock, Ark.

Harrisonburg, Va.—The plans for extending the Chesapeake & Western Railway, it is understood, provide for a line from Stokesville, Va., to Grantsville, W. Va., about 200 miles. James A. Paterson is chief engineer at Harrisonburg.

Helena, Ark.—The Grigsby-Dalhoff Construction Co. of Little Rock and St. Louis has the contract for building the McGehee-Latour division of the Missouri Pacific's extension to New Orleans.

Helena, Ark.—A. L. Phillips and engineers have begun a survey for the proposed line of the St. Louis & San Francisco Railroad from Memphis to New Orleans. Starting south the line will leave the "Frisco" at Marion, Ark., and go to Marianna; thence to the White river at or near Lambert. The rest of the line is yet to be decided.

Jackson, Miss.—The Vicksburg & Gulfport Railway has applied for a charter to build a line from Vicksburg to Gulfport, Miss.

Jackson, Miss.—President F. B. Merrill of the Mobile, Jackson & Kansas City Railroad has finished his inspection of the route from Newton to New Albany. The line will eventually extend to Jackson, Tenn.

Jacksonville, Fla.—The Atlantic Coast Line Railroad will, it is reported, build double track from Grand Crossing to Dinsmore. T. S. Tutwiler is chief engineer at Savannah, Ga.

Jefferson City, Mo.—The St. Louis, Kansas City & Colorado Railroad Co. of Kansas has been incorporated, with \$20,000,000 capital, of which \$8,400,000 is to be employed in Missouri; offices at St. Louis. This is the Rock Island extension now building to Kansas City. The company has been authorized to extend its line from Union to Kansas City.

Johnson City, Tenn.—The railroad projected by the J. M. Buck Lumber Co. will, it is reported, extend from Hunt Dale, on the South & Western Railway, thirteen miles to timber land, and it may be extended nine miles further to Burnsville. R. L. Dyer is making the preliminary survey. A bill has passed the North Carolina House incorporating the road as the Caney River Railway Co., from Bald Mountain, Yancey county, to any point in Mitchell, Madison or Yancey county. The incorporators are Messrs. J. M. Buck, D. M. Buck, W. H. Wood, W. Whitney Wood and Hackett Wood of Johnson City.

Kansas City, Mo.—Mayor W. H. Craddock of Kansas City, Kan., has signed the ordi-

nance granting a franchise to the Kansas City, Outer Belt & Electric Railway Co. in that city. This is the road to give entrance to Kansas City, Mo., for the Kansas City, Mexico & Orient Railway.

Lake Providence, La.—Major B. B. Gordon, Engineer Polk and others are surveying for a railroad westward from Lake Providence, it is reported, for the Missouri Pacific Railway. H. Rohwer is chief engineer at St. Louis, Mo.

Marshall, Texas.—The Texas Southern Railway's cut-off near Pine Ridge has been completed and put in service.

Marvell, Ark.—Surveyors under the charge of Engineer Matthews are running a line south from Cyrt. The "Frisco" is reported to be interested.

Montague, Texas.—Ten miles of grading has been done on the Oklahoma, Texas & Southern Railroad from the Red river to Stephenville. W. A. Squires is president; E. E. Shipley, secretary, and E. E. Churchill, general manager; offices at Montague.

Montgomery, Ala.—Mr. B. Dunham, 334 Sayre street, writes the Manufacturers' Record concerning the Montgomery, Haynesville & Camden Railroad. He says it is one of five roads of which he is in charge as president, and that it is hoped to construct it as soon as matters can be properly arranged.

Nashville, Tenn.—The grading contract for an extension of the Tracy City branch of the Nashville, Chattanooga & St. Louis Railway has been let to C. S. McKinney & Co. of Nashville. It will be over six miles long to reach coal lands between Tracy City and Smully's Ridge.

Nashville, Tenn.—The McMinville, Woodbury & Nashville Railway Co., which proposes to build an electric line, has applied for rights of way into Davidson county. It will also run through Warren, Cannon and Rutherford counties. C. M. Henley and associates are interested. The line will go via Smith Springs.

Nashville, Tenn.—Mr. Hunter McDonald, chief engineer of the Nashville, Chattanooga & St. Louis Railway, writes the Manufacturers' Record saying that the company will shortly begin grading the junction yard at Colesburg, the cost of the entire yard to be about \$14,000, but that Dickson will continue to be the terminus of the Centerville branch.

Norfolk, Va.—The Norfolk & Southern Railway will, it is reported, build a short line to make a direct connection with Norfolk. F. L. Nicholson is engineer maintenance of way, Norfolk, Va.

Oklahoma City, Okla.—President F. N. Finney of the Missouri, Kansas & Oklahoma Railroad Co. writes to the Manufacturers' Record confirming the report that the contract for the line between Oklahoma City and Coalgate, I. T., known as the Texas & Oklahoma Railroad, has been awarded to McArthur Bros. of Chicago. The line is to be 117 miles long to connect the Coalgate branch of the Missouri, Kansas & Texas road with the Missouri, Kansas & Oklahoma at Oklahoma City. The direction will be generally northwest from the Coalgate branch, contract to be completed October 1 next.

Owensboro, Ky.—Mr. W. Scott Morrison writes to the Manufacturers' Record denying the report that he is interested in a plan to build a railroad to open up coal lands near Hawesville.

Parkersburg, W. Va.—C. H. Leonard, B. H. Anderson and Charles Beckman, subcontractors, have begun construction in Wirt county on the extension of the Little Kanawha Railroad from Sandy Bend to Burnsville.

Pennsboro, W. Va.—Mr. M. K. Duty, president of the Pennsboro & Harrisville Ritchie County Railway Co., writes to the Manufacturers' Record concerning the Lorama Railway Co. He says the road is to be fifty-five miles long, standard gauge, from Middlebourne via Centerville, Pennsboro, Harrisville, Pullman, Auburn and Cox's to Troy. It will run through Tyler, Ritchie and Gilmer counties.

Pine Bluff, Ark.—A lumber railroad is being built from Warren to Morro, about thirty miles, ten miles of the line being completed.

Scranton, Miss.—Charles T. Ballard of Louisville, Ky., through Attila Cox, Jr., attorney, has purchased from the city council the franchise for an electric railway between Pascagoula and Moss Point. S. S. Bush, associated with the purchasers, is reported to be negotiating with the Pascagoula & Moss Point Railway for its line, six miles long.

Stratford, Texas.—It is reported that Chicago, Rock Island & Pacific Railway is surveying northeast of Stratford for a line from Enid, Okla., to Clayton, N. M. W. E.

Dauchy is chief engineer, Chicago, Ill. Mr. Dauchy writes the Manufacturers' Record that the company has no present plan of building such a line.

Velasco, Texas.—Duke, Coon & Co., contractors for the extension of the Velasco, Brazos & Northern Railroad from Anchor to Duke, have established headquarters at Anchor. Chief Engineer Cole has a corps of engineers completing the permanent location.

Vernon, Texas.—The Blackwell, Enid & Southwestern and the Blackwell, Enid & Texas line of the Frisco system has been opened between Vernon and Okene.

Vinita, I. T.—It is reported that the Cheyenne branch of the Missouri Pacific will be extended to Joplin, Mo., and that the company will also build from Joplin to Wagoner, I. T. H. Rohwer is chief engineer at St. Louis, Mo.

Washington, D. C.—Inquiry of an official of the Southern Railway fails to confirm the report that expenditures will be made for betterments on the Knoxville & Ohio and the Knoxville, Cumberland Gap & Louisville railroads.

Wheeling, W. Va.—The Cheat Valley Railroad will, it is reported, be extended seven miles from Whetsell to Albrightsville, W. Va. R. L. Humphrey is general manager and chief engineer at Philadelphia, Pa.

Street Railways.

Columbia, S. C.—The city council has voted a franchise to the Lexington & Columbia Electric Railway. Col. G. T. Graham of Lexington and others are interested.

Dallas, Texas.—The Dallas Consolidated Electric Street Railway Co. has petitioned the city council for permission to rebuild a number of its lines at a cost of from \$50,000 to \$70,000.

Elizabeth City, N. C.—H. C. Tunis is general manager of the Electric Light Co. of Elizabeth City, which proposes to build a street railway. D. B. Banks is chief engineer, Continental Trust Building, Baltimore, Md.

Farmville, Va.—Dr. W. E. Anderson has received an inquiry as to whether the council would grant a liberal franchise to a street car line.

Greenville, Miss.—Bids for building the new street railway have been received. It will be three miles long.

Jacksonville, Fla.—The Jacksonville Traction Co., recently incorporated, which will build its main line on Forsyth street, has organized by electing officers as follows: Peter A. Dignan, president; John F. Cannon, first vice-president; H. Mason, second vice-president; Arthur P. Perry, secretary and treasurer, and Harwick & Cannon, general counsel.

Louisville, Ky.—The Louisville & Interurban Railway Co., organized by the directors of the Louisville Railway Co., has been incorporated to build a railroad from the terminus of the Beargrass Railway on the Taylorsville turnpike to Jeffersonstown, seven miles, and thence to Shelbyville, seventeen miles; also on the Preston-street turnpike to Minoma, eleven miles; also along the Eighteenth-street turnpike to Valley Station, ten miles; also from the Story-avenue line to Worthington, ten miles. The officers of the company are T. J. Minary, president; J. B. Speed, vice-president; Samuel G. Boyle, secretary and treasurer.

Knoxville, Tenn.—Young & Co. have applied to the city council for a street-car franchise.

Marshall, Texas.—Y. D. Harrison, who was granted a franchise for an electric street railway, is quoted as saying that it will be in operation by October 1.

Roanoke, Va.—The Roanoke Railway & Electric Co. has been sold to a Philadelphia syndicate, and it is reported will make extensive improvements and extensions. J. W. Hancock at Roanoke is general manager.

Texasarkana, Texas.—Construction of the electric street railway has begun.

Blake Ore Crusher.—An interesting bulletin is No. 1018, being issued by the Denver Engineering Works Co., Thirtieth and Blake streets, Denver, Col., describing the Blake ore crusher. In a letter accompanying the bulletin the maker calls attention to curves of crushing percentage derived from table furnished in a paper by Courtenay De Kalb, which are unusual. The Blake crusher is of the movable-jaw type, and is said to be one of the most successful machines ever designed for the initial crushing of ores. With this type large pieces of rock or ore are first subjected to the action and pressure at the upper part of the jaw, where the motion is the least and the leverage the greatest. The capacity is very large for the weight of metal required in the construction.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Belting.—See "Building Materials."

Boats.—Helena Barge & Derrick Co., T. T. Updegraff, president, Helena, Ark., wants derrick boat and two or three barges suitable for handling logs and lumber.

Boiler.—See "Oil-factory Equipment."

Boiler.—Flat Top Stove & Foundry Co., Keystone, W. Va., wants 25-horse-power boiler on skids.

Boiler and Engine.—See "Woodworking Machinery."

Boiler and Engine.—Frank K. Tyler, Fredericksburg, Va., wants 35 to 40-horse-power engine and 50 to 60-horse-power boiler.

Boiler and Engine.—Gardner & Lacey Lumber Co., Georgetown, S. C., will need engine, and possibly boiler.

Boiler and Engine.—Roberts, Johnson & Rand Shoe Co., Washington avenue and Tenth street, St. Louis, Mo., will want engine of about 250 horse-power, with direct-connected dynamo of approximately 175 kilowatts, with boiler capacity ample to take care of such an equipment.

Bottling Machinery.—Harb Bottling Co., Little Rock, Ark., wants carbonator, bottle-washer and filter.

Box Manufacturers.—O. E. Smith, 322 Forty-ninth street, Newport News, Va., wants addresses of manufacturers of tin or paper boxes or cans suitable for baking powder.

Brick Machinery.—K. D. Creech, Abbeville, Ala., wants a stiff-mud two-bar end-cut steam slicker die, together with cutting table and off bearing to match machine, with capacity of 10,000 to 15,000 bricks in ten hours.

Building Materials.—Geo. M. Moulton & Co., Chicago, Ill., will want lumber, general transmission machinery, corrugated iron covering, belting, etc.

Cannery Equipment.—Hugh J. White, Warrenton, N. C., wants to communicate with manufacturers of cannery equipment.

Cannery Machinery.—Laurel Truck Growers' Association, Laurel, Miss., wants to correspond with manufacturers of cannery machinery.

Canning Machinery.—G. A. Bentley, Grandy (P. O. Cochran), Va., wants catalogues of canning equipment; has 25-horse-power boiler which he wants to utilize.

Canning Machinery.—Thos. P. Rose, manager, Box "R," Shiloh, Va., wants canning machinery.

Car Wheels and Cast Scrap.—Peacock's Iron Works, Selma, Ala., wants old car wheels either on or off axes and several carloads of heavy cast scrap.

Cash-carrier Equipment.—Proximity Mercantile Co., Greensboro, N. C., wants prices on cash-carrier equipment.

Chair Factory.—See "Woodworking Machinery."

Chemical Manufacturers.—See "Solder Manufacturers."

Coke Ovens.—Bids are wanted for erection of 100 beehive coke ovens at Stone, W. Va. Address Columbus Iron & Steel Co., J. H. Frantz, general manager, Columbus, Ohio, or F. M. Shipley, in charge at mines, Stone, W. Va.

Cotton-mill Supplies.—Robert, Ganz & Ruben, Neuerwall, Hamburg, Germany, wants quotations on persulfon shuttle-blocks 18x2½x2 1-16 and 20x2½x2¼ inches.

Derrick Boat.—See "Boats."

Distilling.—See "Wood-products Machinery."

Electrical Equipment.—W. E. Godfrey, Macon, Ga., wants one 10-kilowatt 110-volt dynamo, five-horse-power motor, 10-horse-power gas or gasoline engine; new or second-hand.

Electrical Machinery.—See "Boiler and Engine."

Electrical Supplies.—Springfield Ice, Light, Laundry & Power Co., Springfield, Tenn., will need pipe fittings and a few electric supplies.

Electric-light Fixtures.—See "Heating System."

Electric-light Plant.—Bids will be opened February 7 for construction of ice, electric-light and water plants at Port Arthur, Texas. Plans and specifications on view at offices of W. H. Lovegrove, engineer in charge, at Port Arthur and Houston, Texas. Usual rights reserved.

Electric-light Plant.—Nelson Bethel Clothing Co., 843 West Main street, Louisville, Ky., may need engine and dynamo for lighting building; also elevator and motor.

Electric-light Plant.—Information is desired on cost of incandescent dynamos for 1000, 1500 and 2000 lights for municipal plant. Address M. H. Crump, consulting engineer, Bowling Green, Ky.

Elevator.—See "Electric-light Plant."

Engine.—See "Electric-light Plant."

Engine.—Middle States Coal Co., Hayden Building, Columbus, Ohio, wants 30 to 40-horse-power slide-valve engine, link reverse motion, to replace one now in use, coupled to a drum for hoisting from mine by pinion on main shaft.

Engine.—See "Electrical Equipment."

Engine Builders.—See "Founders and Machinists."

Excelsior Machinery.—Rounsaville & Bro., Rome, Ga., want quotations on excelsior machinery.

Fire Protection.—New science hall of Stetson University, De Land, Fla., is to have automatic sprinkler system. For particulars address J. H. Kruse, engineer.

Founders.—Dickinson Ball Bearing Wheel & Vehicle Co., W. W. Dickinson, president, Little Rock, Ark., will want special machinery built for manufacture of patent ball bearings. Company will submit specification.

Founders and Machinists.—Biscoe Foundry & Machine Co., Biscoe, N. C., is in market for specifications and patterns for building plain slide-valve engines from three horse-power to sixty horse-power.

Glass Manufacturers.—See "Mining Equipment."

Graphite Miners and Users.—See "Mining Equipment."

Heating System.—Bartow Hotel Co., J. W. Sample, treasurer, Bartow, Fla., will want hot-air or steam furnace for heating 50-room hotel.

Heating System.—Odd Fellows' Auditorium Association, N. T. Howard, secretary, Greenville, Tenn., will want furnace, stage scenery and electric-light fixtures.

Ice Plant.—See "Electric-light Plant."

Ice Plant.—James Harrison, Montezuma, Ga., wants machinery for making from three to five tons of ice per day; plant to be operated by water-power.

Iron-works Equipment.—Salem Iron Works, Winston-Salem, N. C., will want cranes, hoists, etc.

Jetty Work.—Bids will be opened February 12 for furnishing materials and constructing jetties at entrance to St. John's river, Florida. Information furnished on application to Francis R. Shunk, captain engineers, U. S. A., St. Augustine, Fla.

Levee Construction.—Proposals will be opened February 12 for levee construction involving about 1,850,000 cubic yards of earthwork. Information furnished on application to U. S. Engineer Office, Chas. L. Potter in charge, Randolph Building, Memphis, Tenn.

Levee Construction.—Proposals will be opened February 4 for various contracts in levee construction on the Mississippi river. The contracts vary from 10,000 to 40,000 cubic yards of work. For information, blank forms of proposal, etc., apply to S. N. Kerley, secretary, 518 Spring street, Shreveport, La., or to board of State engineers, New Orleans.

Machine Tool.—E. G. Smith, superintendent Wilson Laundry Machinery Co., Columbia, Pa., wants gang drill to drill 12 1-16-inch holes about three inches apart.

Manufacturers.—J. J. Roberts & Co., Newport News, Va., want catalogues, etc., from manufacturers.

Mill Supplies.—Eureka Lumber Co., Washington, N. C., wants sprockets and chain nails.

Mill Supplies.—Gardner & Lacey Lumber Co., Georgetown, S. C., will need iron roofing, pulleys, shafting and dust-collection system.

Mining Equipment.—L. T. Nichols, Chester, S. C., wants to correspond with experts on graphite mining and users of the material.

Mining Equipment.—R. G. Van Newkirk, Hyndman, Pa., wants to communicate with manufacturers of modern sand-crushing machines; also with glass manufacturers.

Mining Equipment.—O. P. Weiner, general manager Chimney Rock Mining Co. and Ponca City Mining Co., Ponca, O. T., wants crusher and concentrator.

Oil-factory Equipment.—Southeastern Oil Co., Birmingham, Ala., wants oil pump and small boiler.

Paper Manufacturers.—Hickory Grocery Co., Hickory, N. C., wants names of soap wrapper manufacturers and manufacturers of corrugated paper for packing bottles.

Pipe Fittings.—See "Electrical Supplies."

Piping.—Eureka Lumber Co., Washington, N. C., wants 40,000 feet one-inch pipe.

Piping.—Wilkes Lumber Manufacturing Co., North Wilkesboro, N. C., wants 1500 feet of one-inch dry-kiln piping to double its kiln piping. Company wants to change manifolds both to one end and double pipe, which will require fifty return elbows for to return piping with, also some three-and-one-half-inch piping to convey exhaust to kiln.

Power-pumping Plant.—Southwestern Engineering Co., Limited, Jennings, La., wants proposals and suggestions for power plant to pump three flowing artesian wells, each furnishing a nine-and-one-half-inch stream and allowing fall of water of fifteen feet in dry weather.

Printing Press.—W. E. Godfrey, Macon, Ga., wants one pony power cylinder printing press, new or second-hand.

Publishers.—Standard Supply Co., Wilmington, N. C., wants bids on making up and printing catalogues; electrotypes will be furnished.

Pump.—See "Oil-factory Equipment."

Railway Equipment.—New Etna Coal Co., Chattanooga, Tenn., wants twenty-five to thirty tons relaying 55-pound rail and twenty tons of 12-pound rail.

Railway Equipment.—See "Car Wheels and Cast Scrap."

Railway Equipment.—Wm. Minnigerode, Lynchburg, Va., wants geared locomotive, twenty-eight tons, 36-inch gauge, and 12 to 26-inch gauge flat cars, 30,000 pounds capacity.

Roofing.—See "Building Materials."

Roofing.—Brown Wagon Co., Macon, Ga., wants corrugated sheets and roofing.

Saw-mill.—Blackburn & Blackburn, Pinson-fork, Ky., want prices on 25-horse-power portable saw-mill, line shaft and cut-off.

Shingle Mill.—Rube Bradford, Steel, Miss., wants shingle mill.

Snap Wrapper Manufacturers.—See "Paper Manufacturers."

Solder Manufacturers.—Manufacturers of solder, or those likely to be interested in a new formula for solder, are invited to address Ro. Henning, Jr., 618 Law Building, Baltimore, Md. Mr. Henning has a client who has originated a formula for soldering aluminum to aluminum, to copper, to German silver or any of the softer metals, or soldering together the metals themselves. It is claimed it has a strength about 25 per cent. greater than ordinary solder, and that it can be made at about the same cost. Mr. Henning also has a client who offers a formula for cleaning soot from chimneys, boilers, etc. It is a chemical preparation, which is thrown on the fire and in burning accomplishes the cleaning without further attention.

Stage Scenery.—See "Heating System."

Street Paving.—Local board of improvements, E. B. Hawks, secretary, 309 High street, Portsmouth, Va., will open bids January 21 for furnishing tools, labor and materials required in constructing 7500 square yards of concrete pavements in accordance with plans and specifications at office of city engineer. Bids must be accompanied by certified check for \$500; \$4000 bond required, and usual rights reserved. Bids must be made at so much per square yard, and on blank forms furnished by city engineer.

Tiling.—The Imperial Company, Norfolk, Va., wants name of parties making a specialty of tiling for draining farm lands.

Tinware Machinery.—J. D. Clark, Scranton, Miss., wants catalogues and prices on machinery for manufacture of tinware and household wire goods; also of wire and materials for such articles.

Trucks.—See "Woodworking Machinery."

Typewriter-ribbon Machinery and Supplies.—F. Hammill Company, 114½ Twenty-first street, Birmingham, Ala., wants information as to character of fiber or cloth used in manufacturing typewriter ribbons, machinery suitable for taking ribbons and other particulars.

Water-works.—See "Electric-light Plant."

Wheelbarrows.—See "Woodworking Machinery."

Wireworking Machinery.—See "Tinware Machinery."

Wood-products Machinery.—M. M. Watkins, Moss Point, Miss., wants to investigate machinery made for purpose of distilling yellow-pine wood for the manufacture of charcoal, turpentine, etc.

Woodworking Machinery.—Leonard Vyne, Rockfish, N. C., wants heavy timber surfacer, second-hand, for dressing car sills.

Woodworking Machinery.—Scobee-Williams Spoke Co., Winchester, Ky., needs spoke lathes, throaters, tenoner, matchers, sanding machine, rip saws, equalizers, rim equalizer, pony strip planer, pony saw-mill, wheelbarrows and flange-wheel trucks.

Woodworking Machinery.—See "Shingle Mill."

Woodworking Machinery.—Frank Wright, Cave Springs, Ga., wants pony planer and matcher, small hand planer and jointer, sandpapering machine, polisher, and sash and door clamp.

Woodworking Machinery.—Owensboro Shingle Co., Pasco, Fla., wants engine lathe, 24-inch swing, small planer and drill; can use second-hand.

Woodworking Machinery.—Forbes Manufacturing Co., Hopkinsville, Ky., will want machinery for general woodworking plant, including wagon machinery.

Woodworking Machinery.—S. M. Crites, Berwick, La., wants machinery for manufacturing tubs and poles.

Woodworking Machinery.—W. H. L. Nelms, 251 Capitol avenue, Atlanta, Ga., will want furniture machinery.

Woodworking Machinery.—W. A. Carver, Maxton, N. C., wants lathe for turning porch columns and balustrades, also good-sized saw machine; second-hand or new.

Woodworking Machinery.—W. H. L. Nelms, 251 Capitol avenue, Atlanta, Ga., will need 80 to 100 horse-power boiler, 50 to 65-horse-power engine and necessary machinery for equipping furniture and desk factory.

Woodworking Machinery.—H. G. Trotter, Pin Co., Franklin, N. C., wants machinery for manufacture of insulator pins.

Woodworking Machinery.—J. H. Mitchell, Aboskie, N. C., wants machinery for making chairs, baluster rails, fancy scroll work, etc.

Woodworking Machinery.—Walter Bates & Co., Zebulon, Ga., want machinery for making fruit and vegetable crates and baskets.

TRADE LITERATURE.

About Portland Cements.—The Pennsylvania report of the production of Portland and other cements, as prepared by R. W. Lesley, associate member American Society of Civil Engineers, and president of the American Cement Co., 22 South Fifteenth street, Philadelphia, has been received. The tables and graphic representation of the production, importation and total consumption of Portland cement in the United States are exceedingly interesting, and it is said have never before been published.

1903 Greeting.—I. B. Williams & Sons, Dover, N. H., branch houses 17 West Lake street, Chicago, Ill.; 45 Dey street, New York city, N. Y., and Boston, Mass., send greetings for 1903. This is in the form of a reproduction in colors of a painting of a very beautiful woman. The color work on this attractive picture is especially good. A. Asti is the artist. This really beautiful souvenir is too expensive for free distribution, but will be mailed to any address for twenty-five cents. I. B. Williams & Sons manufacture leather belting and lace leather.

The Hennebique Floors.—An interesting publication has been issued relative to the Hennebique patent armored concrete construction, main office at 1123 Broadway, New York. It is a diagram showing the system as applied to Sheldon House in New York city. Bearing tests made on the floors constructed after the Hennebique patents are shown. Some remarkable results were obtained, yet not remarkable when the extensive use of the system throughout the world is considered. R. Baffrey, manager at the New York offices, can be addressed for information.

Westinghouse Literature.—"Work Done" is the suggestive title of a book just received from the publishing department of the Westinghouse Electric & Manufacturing Co., Pittsburgh, Pa. This work is that done in the field of high-speed electric interurban railway engineering by this firm, or rather by its engineering branch, Westinghouse, Church, Kerr & Co. Its information will be of value to all engineers, business men and managers of interurban railways. The descriptions are well illustrated by half-tones from photographs and by reproductions from working drawings.

Milling Machine and Turret Lathes.—The thread-milling machine and the new model turret lathes of the Pratt & Whitney Co. of Hartford, Conn., are described in two recent catalogues. This company has aimed, and states it has fully succeeded, to reach a higher degree of mechanical excellence in its machines than has heretofore been attained. Improvements giving greater accuracy, capacity, convenience and durability have been embodied in the latest models. All users of machine tools are invited to investigate these tools before placing orders elsewhere.

Holiday Greetings.—Bowen & Street, Norfolk, Va., are mailing very pretty Christmas and New Year's greetings to their friends and patrons. The railroad design on the cover is well executed and the greeting simple. Bowen & Street have just purchased the entire 36-gauge equipment of the C., N. & W. Railway, in which there are five moguls, one consolidation, two American type locomotives, 120 freight and seven passenger and baggage cars. They also have 1000 tons of 30-pound relay rails with joints. Bowen & Street are prepared to furnish standard-gauge engines and cars.

Heating and Ventilating Folder.—The Buffalo Forge Co., Buffalo, N. Y., is distributing a small folder describing and illustrating the Buffalo fan system of heating, ventilating and drying. The apparatus required for the above system consists of a boiler and heating coils enclosed in a sheet-steel casing, connecting with the air ducts, which lead to the various compartments of the building, and also connected with a fan supplied with motive power. Proper air-regulating dampers and means of returning the hot condensed water from the coils to the boiler complete the necessary equipment.

Incorporate Your Business.—The advantages of incorporation for any business are as yet not fully realized by many business men. During recent years most important industrial and mercantile enterprises have incorporated, and their example is being followed by others every day. There are some especially good reasons why companies should obtain their incorporation papers in Delaware, and the Delaware Charter Guarantee & Trust Co. of Wilmington, Del., is prepared to state those reasons to interested parties. A booklet condensing the principal facts has been issued. Send for a copy.

Relaxation.—A handsome calendar for 1903 is issued by the Crooked Fork Coal & Coke Co. of Petros, Tenn., to remind buyers of coal that it is the miner and shipper of the celebrated Brushy Mountain coal, the standard steamer. The calendar presents the usual day, month and date pad, together with a reproduction of "Relaxation," the work of the artist W. Verplanck Birney, A. N. A. "Relaxation" shows a gentleman of "ye olden time" engaged in meditation while smoking his church-warden in a quiet corner. His red coat and waistcoat indicate a recent return from the hunt, and his attitude a desire to be undisturbed.

Wire Rope and Wire.—The John A. Roebbing's Sons Co., Trenton, N. J., maker of wire rope and wire, hoisting rope, haulage rope, logging rope, galvanized hawsers, steel and copper telegraph wires, is sending out calendars for 1903. This is attractively arranged, printed on excellent stock, and bears a photographic reproduction of a view of the new East river bridge in course of construction. The height of the center of cable at the top of the tower above high water is 333 feet; cable diameters, 19 inches; weight of each cable, 1100 tons, and the number of wires in each, 7696. The arrangement of these cables and the manner in which they are secured is interesting.

Crayons.—New England Crayon Co., No. 84 Washington street, Boston, Mass., is mailing its price-list for 1903. The growth of business of this firm has recently necessitated a removal to Walden, Mass., on a line of railroad which provides convenient shipment of goods. With a new building and one abundantly equipped with the latest devices for manufacturing these crayons in quantity, this firm is fully prepared to handle large orders with facility. Attention is called in this booklet to No. 300 Metropolitan wax school crayons, designed especially for school use; though only recently introduced, they are already in demand. The Boston office is prepared to fill all orders with dispatch.

Motors.—Semi and fully enclosed motors are illustrated and described in Bulletin No. 29 received from the Crocker-Wheeler Company, Ampere, N. J. Since the introduction of small open type multipolar electric motors a few years ago a demand has arisen for a motor of compact design having its windings

and more delicate parts partly or wholly enclosed from external injury. This demand is largely due to the increasing use of motor-driven machinery, in which the motor is directly connected and forms an integral part of the machine. The Form 1 motors described in this pamphlet are designed to meet these requirements, as well as those of general power purposes where it may be desirable to attach the motors to side walls or ceilings.

Willans Engine in America.—Bradley Manufacturing Co., Pittsburgh, Pa., has purchased American rights for the Willans engine, together with all patterns and special tools formerly owned by M. C. Bullock Manufacturing Co. of Chicago. Hereafter these engines will be built in sizes of twenty-five horse-power, and the Bradley Manufacturing Co. will maintain in manufacture a quality fully equal to the English standard. The Willans engine will be manufactured only by this firm at the new plant now in process of erection, and special tools will be employed in the making of those parts requiring extreme accuracy. A catalogue describing in detail this engine should be in the hands of all prospective engine buyers. Send for one.

Labels, Showcards, etc.—American Label Manufacturing Co., Baltimore, Md., manufacturer of labels, showcards, embossing and novelties, issues an attractive calendar. The calendar shows the raised figure of an Indian woman standing on the edge of a field of maize or Indian corn, near which a narrow stream flows, with an arm outstretched and an eagle preparing for flight resting thereon. The whole is in good taste, and the blending of colors very effective. The legend attaching to this releasing of a young eagle at the rising of the sun by a beautiful girl is printed on the reverse side of this calendar, and is as pretty as the calendar itself; in fact, it is one of the most beautiful of all of the dreamy old Indian legends. The release of the bird is a token of thanksgiving.

Riedler Pumping, Compressing and Blowing Engines.—Two comprehensive catalogues issued by the Allis-Chalmers Company of Chicago give full particulars regarding the Riedler pumps and the Riedler compressors and blowing engines. The Riedler system has met with great success in the industrial world by reason of its efficiencies as applied to the various types of machinery mentioned. The demand is constantly increasing as users of such equipments become acquainted with the admirable results obtained. Investigation on the part of buyers will convince the most exacting that the Riedler machines are not excelled for their purposes by any other make in the market. An interesting booklet relative to the Riedler machines is that presenting a list of present users. They are located in all parts of the world.

Dixon's Graphite.—Dixon's No. 635 graphite is a finely-pulverized pure-flake graphite, put up in one-half pound and larger packages in dry form, and can be readily applied by means of an ordinary squirt can. In this form Dixon's graphite is very good for valves and any exposed bearing. Dixon's graphite greases have the good lubricating qualities of the best mineral oils, but are in solid form, and are simple and economical in application. Dixon's Graphitoleo is a preparation of finely-pulverized and very choice graphite and a pure vaseline. It may be mixed with oil for cylinders and all emergency road cases. These three products of Joseph Dixon Crucible Co., Jersey City, N. J., are described in detail and Dixon's graphite products in a general way in an interesting little book called "A Tool for Dixon's Graphite."

Art, Beauty and Engineering.—"The moon rising, unveiled her peerless light and o'er the dark her silver mantle threw." This is a pen picture by the poet Milton. The artist, Neil Mitchell, must have worked to this inspiration in producing the original painting described by this quotation and reproduced to lend its beauty to a calendar received from Christensen Engineering Co., Milwaukee, Wis. The painting is a marine view at night. The moon, half covered by fleecy clouds, shines down on a waste of waters and on a few scattered sails. The picture is beautiful and very artistically mounted. The calendar pad itself is quite small, and its arrangement is such as to add to the artistic effect of the whole. "Moonlight Sail," a painting by Tyler, is reproduced in as charming a manner on a second calendar, entirely different, but no whit less beautiful. Christensen Engineering Co. manufactures air brakes and "Ceco" electrical machinery.

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office Manufacturers' Record,
Baltimore, Md., January 21.

Dullness in New York had its effect upon speculation in the Baltimore market during the past week, with the result that the volume of business continued limited. Prices here were not, however, materially affected, and in some securities, notably those of one or two bonding companies, activity was displayed. It was reported that a deal was under way for the purchase of the American Bonding & Trust Co. by gentlemen interested in the movement to establish another surety company in Baltimore. The result of this was that there was considerable trading in the stock and some activity also followed in the shares of the United States Fidelity & Guaranty Co. United Railways issues were quiet, but about steady. Consolidated Gas was dull. Seaboard were likewise inactive, except for the 4 per cent. bonds, in which there was some movement, and the preferred shares figured to some extent in the trading. Little movement was visible in G.-B.-S. Brewing issues, but more activity was manifested in trust-company shares. Some interest was displayed in Cotton Duck after the election of Mr. Charles K. Oliver as president of the United States Cotton Duck Corporation. Investment securities were in fair demand at well-sustained prices.

In the trading United Railways common sold at 13½ to 13¾; the income bonds at 67 and 67½; the 4 per cent. at 94½ and 95, and United Light & Power 4½s at 87. Consolidated Gas changed hands at 70½ and 71; Seaboard common at 26½ to 26¾; preferred at 42½ to 43; the 4 per cent. bonds at 83½ to 84¼; the 5s at 102¼. Cotton Duck common sold at 6 to 6½, and the 5 per cent. bonds at 78. G.-B.-S. Brewing common was traded in at 13¼ to 13½; the income bonds at 37½ to 38, and the 1sts at 50½ to 51¾.

In the trust-company group Mercantile sold at 164½ to 165; International at 146½ to 147½; Baltimore Trust at 310 to 312½; Continental at 206; Maryland Trust at 202; Maryland Casualty at 52½ and 53; American Bonding & Trust between 90 and 95; United States Fidelity & Guaranty at 148 to 150½; Fidelity & Deposit at 160¼ to 167; Bank of Baltimore, 120; Second National, 195; Farmers and Merchants', 69½.

Other securities traded in were as follows: Atlantic Coast Line common, 135; do. first instalment paid, 41¼ to 42; Atlantic Coast Line of Connecticut, 325; Northern Central stock, 115½ to 118; Northern Central 5s A, 121¼; Northern Central 6s, 103¾; Baltimore City 5s, 1916, W. L., 122; do. 3½s, 1930, 110; do. 3½s, 1940, 112½; Georgia & Alabama Consolidated 5s, 110 to 110½; Georgia, Carolina & Northern 5s, 100 and 110½; Alabama Consolidated Coal & Iron common, 36; do. preferred, 85½; Raleigh & Augusta 6s, 122¼; Charleston Consolidated Electric 5s, 92; Norfolk Street Railway 5s, 110½; Seaboard & Roanoke 5s, 112¼; Maryland Telephone 5s, 85; North Carolina 4s, 102; Carolina Central 4s, 96½ and 96¾; South Bound 5s, 111¼; Wilmington & Weldon 5s, 120¾; Atlanta Street Railway 5s, 105¼; Baltimore City Passenger 4½s, 102¼; do. 5s, 108; Virginia Midland 5½s, 115; West Virginia Central 6s, 112 and 112½; United States coupon 5s, 1904, 105¼; Maryland &

Pennsylvania stock, 27; City & Suburban 5s (D. C.), 100; Suffolk & Carolina stock, 40; Atlantic Coast Line 4s (S. C.), 102½; Atlantic Coast Line new 4s, 89; Washington, Ohio & Western 4s, 93; Charlotte, Columbus & Augusta 1sts, 116½; Virginia Railway & Electrical Development 5s, 96; Consolidation Coal, 90; Merchants & Miners' Transportation Co., 190; Pennsylvania Steel, 50.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended January 21, 1903.

Railroad Stocks.	Par.	Bid.	Asked.
Atlanta & Charlotte.....	100	162	166
Georgia Sou. & Fla. 2d Pref.....	100	78	81
United Railways & Elec. Co.....	50	13	13½
Seaboard Railway Common.....	100	26	26½
Seaboard Railway Preferred.....	100	42½	42½

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank.....	100	31½	33
Commercial & Nat. Bank.....	100	132	140
Drovers & Mech. Nat. Bank.....	100	290	...
Farmers & Mer. Nat. Bank.....	40	60½	70½
First National Bank.....	100	160	164
German Bank.....	100	107	...
Manufacturers' National Bk.....	100	100	105
Merchants' National Bank.....	100	189	191
National Bank of Baltimore.....	100	125	125
National Bank of Commerce.....	100	147	148
National Exchange Bank.....	100	194½	200
National Howard Bank.....	100	119½	...
National Union Bank of Md.....	100	117	...
Second National Bank.....	100	190	200

Trust, Fidelity and Casualty Stocks.

American Bonding & Trust.....	50	90	91
Baltimore Trust & Guarantee.....	100	313	320
Colonial Trust.....	50	30	...
Continental Trust.....	100	200	206
Fidelity & Deposit.....	50	165	167
International Trust.....	100	147	148
Maryland Casualty.....	25	52	53½
Maryland Trust.....	100	292	295
Mercantile Trust & Deposit.....	50	163½	165
Union Trust.....	50	68½	71
U. S. Fidelity & Guaranty.....	100	...	150

Miscellaneous Stocks.

G. B. & S. Brewing Co.....	100	12½	14½
United Elec. L. & P. Pref.....	50	36	39
Cotton Duck Votting Trust.....	100	6	7
Consolidation Coal.....	100	90	95
Consolidated Gas.....	100	70	71

Railroad Bonds.

Chas. Col. & Aug. 1st 5s, 1910.....	116	118	...
Columbia & Greenville 1st 6s, 1906.....	116	118	...
Georgia, Car. & North 1st 5s, 1929.....	110	110½	...
Georgia South. & Fla. 1st 5s, 1945.....	113	115	...
Georgia Pacific 1st 6s, 1922.....	122	124½	...
Petersburg, Class A 5s, 1926.....	115	117	...
Petersburg, Class B 5s, 1926.....	128	...	...
Raleigh & Augusta 1st 6s, 1926.....	122	122½	...
Savannah, Fla. & West 5s, 1934.....	114	...	...
Savannah & Roanoke 5s, 1916.....	105	...	...
Seaboard & Roanoke 5s, 1926.....	122	122½	...
Virginia Midland 1st 6s, 1906.....	105½	107½	...
Virginia Midland 2d 6s, 1911.....	113½	114	...
Virginia Midland 3d 6s, 1916.....	113	...	...
Virginia Midland 4th 3-4-5s, 1921.....	110	...	...
Virginia Midland 5th 5s, 1926.....	114½	116½	...
West. North Carolina Con. 6s, 1914.....	112½	113	...
West Virginia Central 1st 6s, 1911.....	111	113	...
Wilmington, Col. & Aug. 6s, 1910.....	112	115	...
Wilmington & Wel. Gold 5s, 1935.....	120	...	...
Charleston City Railway 5s, 1923.....	105	110	...
Charleston Con. Electric 5s, 1929.....	90	93	...
Knoxville Traction 1st 5s, 1928.....	102½	103½	...
Newport News & Old Pt. 5s, 1938.....	108½	109½	...
Norfolk Street Railway 5s, 1944.....	112	114	...
United Railways 1st 4s, 1949.....	94½	95	...
United Railways Inc. 4s, 1949.....	67	67½	...
Seaboard 4s.....	83½	84½	...
Seaboard 10-year 5s.....	102	...	...
Lexington Railway 1st 5s.....	102	102½	...
Augusta Railway & Elec. 5s.....	100	...	...

Miscellaneous Bonds.

Mt. V. & Woodbury Cot. Duck 5s.....	76	78½	...
G. B. & S. Brewing 1st 3-4s.....	51	52	...
G. B. & S. Brewing 2d Income.....	37½	37½	...
United Elec. Light & Power 4½s.....	86½	87	...
Consolidated Gas 6s, 1910.....	110	...	...
Consolidated Gas 5s, 1939.....	111½	...	...

SOUTHERN COTTON MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending January 20.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	65	...
Aiken Mfg. Co. (S. C.).....	91	93
Anderson Cotton Mills (S. C.).....	121	128
Arkwright Mills (S. C.).....	111	124
Augusta Factory (Ga.).....	64	...
Avondale Mills (Ala.).....	85	...
Bolton Mills (S. C.).....	96	...
Bibb Mfg. Co. (Ga.).....	108½	109½
Brandon Mills (S. C.).....	95	101
Buffalo Cotton Mills (S. C.) Pfd.....	99	...
Cabarrus Cotton Mills (N. C.).....	122	...
Chiquola Mfg. Co. (S. C.).....	99	...
Clearwater Bleich. & Mfg. Co. (Ga.).....	90	...
Clifton Mfg. Co. (S. C.).....	170	...
Clinton Cotton Mills (S. C.).....	118½	124
Courtenay Mfg. Co. (S. C.).....	85	...
Columbus Mfg. Co. (Ga.).....	85	...
Dallas Mfg. Co. (Ala.).....	91	...
Darlington Mfg. Co. (S. C.).....	91	...
Eagle & Phenix Mills (Ga.).....	93	...
Easley Cotton Mills (S. C.).....	94½	...
Enoree Mfg. Co. (S. C.).....	86	88½
Enterprise Mfg. Co. (Ga.).....	85	85½
Exposition Cotton Mills (Ga.).....	95	100
Gaffney Mfg. Co. (S. C.).....	99	99
Granby Cotton Mills (S. C.).....	101	101
Granby Cot. Mills (S. C.) 1st Pfd.....	101	101
Graniteville Mfg. Co. (S. C.).....	158	165
Greenwood Cotton Mills (S. C.).....	100	103
Grendel Mills (S. C.).....	210	...
Henrietta Mills (N. C.).....	92	95
King, John P., Mfg. Co. (Ga.).....	100	109
Lancaster Cotton Mills (S. C.).....	102	106
Langley Mfg. Co. (S. C.).....	164	...
Laurens Cotton Mills (S. C.).....	101	101
Lockhart Mills (N. C.).....	101	101
Mayo Mills (N. C.).....	140	...
Mills Mfg. Co. (S. C.).....	99	...
Mills Mfg. Co. (S. C.) Pfd.....	103	...

Monarch Cotton Mills (S. C.).....	96	98½
Monaghan Mills (S. C.).....	94	...
Newberry Cotton Mills (S. C.).....	115	...
Norris Cotton Mills (S. C.).....	110	...
Olympia Cotton Mills (S. C.).....	100	...
Olympia Cotton Mills (S. C.) Pfd.....	98	...
Odell Mfg. Co. (N. C.).....	100	102½
Orangeburg Mfg. Co. (S. C.) Pfd.....	101½	102½
Orr Cotton Mills (S. C.).....	190	206
Polzer Mfg. Co. (S. C.).....	165	...
Piedmont Mfg. Co. (S. C.).....	165	172½
Poe, F. W., Mfg. Co. (S. C.).....	128	...
Richland Cotton Mills (S. C.).....	90	100
Richland Cotton Mills (S. C.) Pfd.....	100	...
Roanoke Mills (N. C.).....	55	100
Sibley Mfg. Co. (Ga.).....	64	...
Southern Cotton Mills (N. C.).....	130	...
Spartan Mills (S. C.).....	125	140
Trium Mfg. Co. (Ga.).....	125	...
Tucapau Mills (S. C.).....	130	...
Union Cotton Mills (S. C.).....	148	...
Union Cotton Mills (S. C.) Pfd.....	100	102½
Victor Mfg. Co. (S. C.).....	119	...
Warren Mfg. Co. (S. C.).....	98	...
Warren Mfg. Co. (S. C.) Pfd.....	106	...
Washington Mills (Va.) Pfd.....	103½	...
Washington Mills (Va.) Common.....	7½	...
Whitney Mfg. Co. (S. C.).....	110	...
Wilmington Cot. Mills (N. C.) Pfd.....	100	...
Wisnasset Mills (N. C.).....	115	...
Woodruff Cotton Mills (S. C.).....	89	...

Ten New Banks.

A dispatch from Guthrie says that Paul F. Cooper, bank commissioner of Oklahoma, has issued certificates authorizing the following banks to commence business:

Bison State Bank, with a capital of \$5000; Fred Tomerley, president; J. O. Squitchfield, cashier.

Bank of Beaver City, with capital of \$5000; A. L. McPherson, president; E. E. McPherson, cashier.

Bank of Cachie, with capital of \$5000; officers, John M. Ziegler, president; W. P. Smith, cashier.

Harrison Bank of Harrison, with capital of \$5000; A. P. Smelzer, president; J. G. Mulz, cashier.

Citizens' Bank of Erick, with capital of \$5000; I. C. Thurman, president; J. B. Dewey, cashier.

First State Bank of Carrier, with capital of \$5000; J. P. Cook, president; C. M. Lewis, cashier.

Yale State Bank of Yale, with capital of \$10,000; E. G. Newell, president; A. P. Adams, cashier.

First State Bank of Crestos, with capital of \$5000; Wm. Stenberg, president; F. C. Hoyt, cashier.

Hinton State Bank of Hinton, with capital of \$5000; Geo. Bellamy, president; H. W. Miller, cashier.

Bank of Hominy, with capital of \$5000; E. J. Sparrell, president; H. W. Mullen, cashier.

New Corporations.

Dr. R. Frank Smith and others propose to establish a bank at Easley, S. C., with \$50,000 capital.

It is reported that a trust company with \$500,000 capital is being organized at Little Rock, Ark.

The City National Bank has begun business at Dawson, Ga., with \$65,000 capital paid in. The officers are J. Mercer Bell, president; K. S. Worthy, cashier.

The First National Bank of Mannsville, I. T., has been organized, with \$25,000 capital. The officers are L. E. Covey, president; E. V. Wolverton, cashier.

The American Land & Loan Trust Co. of Okmulgee, I. T., capital \$25,000, has been incorporated by Jacob Bozarth, Nathan Boyd, Adam Seider and George Murphy.

The Cotton Exchange Bank at Shelby, Miss., has had its charter approved; capital \$50,000. The incorporators are Miller Winston, cashier; J. W. Bocock and Will Dockery.

A letter to the Manufacturers' Record says that a bank will soon be organized at Chilhowie, Va. James D. Tate, president of the Chilhowie Lumber Co., and others are interested.

The Wallace Bank of Wallace, W. Va., has been incorporated, with \$35,000 capital, by Elihu I. Parks, Omar W. Swager, Thomas J. Parrish, James F. Dye, Jas. E. Hall, Wallace.

The First National Bank of Canadian, Texas, capital \$25,000, has been organized by D. J. Young of Canadian, Robert Moody, Thos. F. Moody, Mary A. Young and R. A. Moody.

The Bank of Donaldsonville, Decatur county, Georgia, has applied for a charter, the incorporators being W. L. Shingler, Thomas Chason and A. R. Benton, all of Donaldsonville.

The People's Bank of Taylorsville has been incorporated at Taylorsville, Ky.; capital \$25,000. J. W. Hill of Owenton and others are interested. It will begin business about March 1.

The First National Bank of McLoud, O. T., has been organized, with \$25,000 capital. Those interested are Thos. Hollis of McLoud, Wm. Jarvis, L. B. Heliker, C. B. Boylan and A. G. Hollis.

The Charles S. Miller Abstract Co. has been chartered at Ballinger, Texas, with \$25,000 capital. The incorporators are Charles S. Miller, Robert L. Bennett and S. Prentiss Gregg, all of Ballinger.

The Merchants and Farmers' Bank has been organized at Como, Miss.; capital \$25,000. The officers are D. Craig, president; Dr. A. S. Yarbrough, vice-president, and J. B. Wardlaw, temporary cashier.

The Hereford Building and Loan Association of Hereford, Deaf Smith county, Texas, has been incorporated, with \$10,000 capital. The incorporators are J. P. Connell, W. B. Beach and G. A. Stambaugh.

A bank with \$25,000 capital has been organized at Magazine, Ark., with R. B. Chitwood, president, and G. B. Kyle, Isaac Peck, S. R. George, L. Thomasson, Professor Burnett and Dr. E. T. Powell, directors.

The Mississippi County Bank has been incorporated, with \$25,000 capital, at Blytheville, Ark. The officers are R. Archibald, president; E. L. Sawyer, vice-president; R. L. Morris, secretary and treasurer.

The People's Bank of Smithville, De Kalb county, Tennessee, has been chartered, with \$15,000 capital. The incorporators are H. E. Staley & Son, James M. Hayes, J. B. Parrish, Henry Puckett and R. B. West.

The East Texas Abstract & Investment Co. has been chartered at Hemphill, Texas; capital \$20,000. The incorporators are W. W. Hammock, J. C. Christman, A. S. Busby, G. B. McGuire and H. N. Atkinson.

The new Wayne County Bank at Wayne, W. Va., has organized by electing State Senator B. J. Pritchard, president; H. A. Jackson, vice-president; W. L. Mansfield, secretary and treasurer, and Clyde Miller, cashier.

The Trust Company of Dallas has been chartered at Dallas, Texas, with \$100,000 capital. The incorporators are J. C. O'Connor of New York city, H. A. Kahler of Montclair, N. J.; N. J. Williams, Wm. G. Breg and Thomas Shearon of Dallas.

A new bank has been organized at New Albany, Miss.; capital \$50,000. The officers are W. B. Robbins, president; Paul Rainey, vice-president; R. Patterson, cashier, with Dr. S. A. Gassaway, J. E. Tate, John Scott, R. H. Stephens and B. F. Whittington as directors.

A movement is under way in Baltimore to organize a new bonding company with \$1,000,000 capital. Among those reported as being interested are Bernard N. Baker, until recently president of the Atlantic Transport Co.; Waldo Newcomer and Henry G. Penniman.

The Bank of Manchester, Va., has filed its charter at Richmond. Others also filing charters are the Consolidated Loan & Trust Co. of Staunton, Va., capital \$5000, and the Clintwood Bank of Clint-

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wood, Dickenson county, Virginia, capital \$15,000, with Robert E. Chase as president.

The charter of the Lexington Banking & Real Estate Co. of Lexington, Miss., is published; capital \$40,000, with \$15,000 paid up. The incorporators are H. F.

[For Additional Financial News, See Page 32.]

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